REPORT RESUMES

ED 003 723 64
REPORT OF A PILOT CONFERENCE ON THE DISSEMINATION OF PRINCIPLES AND PRACTICES IN THE USES OF TELEVISION IN EDUCATION.
BY- MURPHY, J. FRED HULL, RICHARD B.
NORTH CENTRAL ASSN. OF COLL.AND SECONDARY SCHOOLS
REPORT NUMBER NDEA-VIIB-030-A PUB DATE 60
CONTRACT OEC-SAE-9037
EDRS PRICE MF-$0.18 HC-$4.36 109P.

DESCRIPTORS- *CONFERENCES, *INFORMATION DISSEMINATION, *EDUCATIONAL TELEVISION, *TEACHING METHODS, *PILOT PROJECTS, SEMINARS, EQUIPMENT UTILIZATION, CONSULTANTS, INSTRUCTIONAL TELEVISION, COLUMBUS, OHIO, WEST VIRGINIA, MICHIGAN, INDIANA, NORTH CENTRAL ASSOCIATION (NCA)

THE ACTIVITIES OF A PILOT CONFERENCE FOR THE DISSEMINATION OF INFORMATION IN VARIOUS EDUCATIONAL MEDIA WERE REPORTED. THE PURPOSES OF THE CONFERENCE WERE (1) TO DEMONSTRATE THE USES OF DIFFERENT KINDS OF EQUIPMENT, PROCESSES, AND METHODS FOR TELEVISION (TV) USAGE IN EDUCATION, (2) TO RELATE TV TO OTHER MEDIA USED IN EDUCATION, (3) TO PROVIDE WAYS TO RECORD THE ACTIONS AND RESULTS OF THE CONFERENCE, (4) TO DEVELOP A PATTERN FOR CONDUCTING ADDITIONAL CONFERENCES, AND (5) TO REVISE THE 1959 SEMINAR REPORT ON TV USAGE. THE PARTICIPANTS INCLUDED 2 DELEGATES FROM EACH NORTH CENTRAL STATE, PLUS 10 DELEGATES FROM EACH OF 4 OTHER STATES. DELEGATES FROM OHIO, WEST VIRGINIA, MICHIGAN AND INDIANA REPRESENTED PERSONNEL FROM (1) EDUCATIONAL TV STATIONS AND CENTERS, (2) TV AND CLASSROOM TEACHERS, PRINCIPALS AND SUPERINTENDENTS, AND (3) OTHER ORGANIZATIONS, AGENCIES, AND INSTITUTIONS. THE PROGRAM INCLUDED LECTURES, PRESENTATIONS, TOURS, SEMINARS, AND A SYMPOSIUM. RECOMMENDATIONS WERE THAT THE NORTH CENTRAL ASSOCIATION TV SUBCOMMITTEE (1) DISSEMINATE THE REVISED SEMINAR REPORT, (2) PROVIDE AID FOR ADDITIONAL CONFERENCES, AND (3) INITIATE ACTION THROUGH THE NCA CHAIRMEN IN THE 19 STATES SERVED BY THE NORTH CENTRAL ASSOCIATION. (RS)

ED003723

B-030-a

A PILOT CONFERENCE ON THE DISSEMINATION OF THE PRINCIPLES AND PRACTICES IN THE USES OF TELEVISION IN EDUCATION

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
Office of Education
This document has been reproduced exactly as received from the person or organization originating it. Points of view or opinions stated do not necessarily represent official Office of Education position or policy.

Held At

THE OHIO STATE UNIVERSITY
COLUMBUS, OHIO

November 12-13-14, 1960

Conducted by

THE NORTH CENTRAL ASSOCIATION OF
COLLEGES AND SECONDARY SCHOOLS

in cooperation with

THE UNITED STATES OFFICE OF EDUCATION

REPORT
OF
A PILOT CONFERENCE ON THE DISSEMINATION OF PRINCIPLES AND PRACTICES IN THE USES OF TELEVISION IN EDUCATION

Conducted by

The Subcommittee on Television

of the

Commission on Research and Service

THE NORTH CENTRAL ASSOCIATION OF COLLEGES
AND SECONDARY SCHOOLS

November 12-13-14, 1960

Columbus, Ohio
The Ohio State University

under contract with

The United States Office of Education

Contract SAE-9037 File No: B-030(a)

TABLE OF CONTENTS

Page

I. FOREWORD 1

II. PURPOSES OF THE CONFERENCE 3

III. AIMS AND OBJECTIVES OF THE PILOT CONFERENCE 3

IV. A DESCRIPTION OF THE PROGRAM OF THE CONFERENCE 5

V. RESULTS AND RECOMMENDATIONS OF THE PILOT CONFERENCE 8

VI. RESPONSIBILITIES OF THE NCA TV SUBCOMMITTEE 12

APPENDIX A -- THE USES OF TV IN EDUCATION

APPENDIX B -- INVITATION AND REGISTRATION LIST

APPENDIX C -- STATUS REPORT ON ETV

APPENDIX D -- CONFERENCE PAPERS AND REPORTS

APPENDIX E -- TRANSCRIPTS OF CONFERENCE SPEECHES

Subcommittee on Television
The Commission on Research and Service
North Central Association of Colleges and Secondary Schools

The members of the Subcommittee who conceived and conducted the Pilot Conference are educators experienced in the field of educational television. Mr. Hull, Mr. McKune, Mr. Brown, and Mr. Emery were each engaged in some of the earliest college level experimentation with televised instruction and have continued their interest and activity in that area. Miss Mitchell for several years has directed one of the important experimental projects of the secondary school level. Mr. Fleming has contributed representative thinking from the secondary school administrator's view as to the problems and opportunities inherent in using television for education in the American high school. Mr. Endicott, Mr. Murphy, and Mr. Vroman represent the official interest of the North Central Association and have been helpful in the projects and work of the Subcommittee on Television.

Members

Richard B. Hull, Chairman, and Executive Director Telecommunications Center	The Ohio State University Columbus, Ohio
Leslie E. Brown Dean of Administration Cleveland College	Western Reserve University Cleveland, Ohio
Donald G. Emery Superintendent	Shaker Heights Public Schools Shaker Heights, Ohio
Robert L. Fleming Principal	South High School Youngstown, Ohio
Laurence E. McKune Associate Professor Continuing Education Television	Michigan State University East Lansing, Michigan
Wanda B. Mitchell Director, Television Project	Evanston Township High School Evanston, Illinois

Ex Officio Members

Frank S. Endicott, Vice Chairman NCA Commission on Research and Service, and Director of Placement	Northwestern University Evanston, Illinois
J. Fred Murphy, Vice President North Central Association, and Principal	Broad Ripple High School Indianapolis, Indiana
Clyde Vroman, Chairman NCA Commission on Research and Service, and Director of Admissions	University of Michigan Ann Arbor, Michigan

---

Project Staff

Martha Haueisen, Secretary	David Parker, Coordinator

I. FOREWORD

In 1961 educational television began its second decade. The past ten years have seen the construction of 59 educationally-owned television stations and more than 400 closed-circuit TV installations, some linking together all buildings on a college campus, at least one connecting all the units of a county school system.

A national educational TV film and videotape network developed, providing programs for forty-eight affiliates. NBC-TV pioneered telecasting college credit courses in science and mathematics coast-to-coast. One city school system, now operating an educational TV station, plans construction of four additional channels.

During 1961 the Midwest Program for Airborne Television will transmit videotaped lessons from an airplane to classrooms throughout a six-state area.

Educational television began as an alternative program service for mature adults and out-of-school children. In February 1961 the national educational network began systematic study and discussion programs for local adult community groups to be used in connection with adult educational TV programs. During the last five years educational television has added still another dimension: it is being employed systematically as a formal instrument of education. Millions of elementary, secondary and college students receive some of their instruction via television.

Educational television began developing just at the time it became essential to explore technological innovations in education, to attack the crisis precipitated by mushrooming school enrollments, teacher shortages, the scientific advances heralded by Sputnik, the new explosion of knowledge, and the rising costs of education.

Some aspects of educational television continue to create controversy, but it is becoming increasingly clear that television is designated to play a major role in the American educational process. The problem is to determine when and where television can best be used in bolstering the teacher and helping the learner, and in what relationship to the other media--radio, motion pictures, teaching machines and the printed text.

The North Central Association of Colleges and Secondary Schools, as the voluntary accreditation association in 19 states[1] is by tradition concerned with developing and maintaining high standards of education. Recognizing the potential importance of television as an educational tool, the NCA Executive Committee in 1953 appointed a special committee to recommend whether or not the NCA should concern itself formally with the new medium of communication. As a result the Executive Committee designated television as a study area for the Commission on Research and Service.

In 1954 the Commission conducted an educational television conference which established the first set of official standards for accrediting courses for credit on television. Later that year the Subcommittee on Television was formally established as a unit of the Commission.

---

[1] 3,500 secondary schools, 419 colleges and universities in the states of Arizona, Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, New Mexico, North Dakota, Ohio, Oklahoma, South Dakota, West Virginia, Wisconsin, and Wyoming.

In 1955 the Subcommittee with the help of the NCA state chairmen conducted a country-wide survey of TV credit courses on the secondary level, but made no published report of its findings. In 1956 the Subcommittee arranged a large screen, closed-circuit tour by TV of Chicago's educational TV station WTTW, and a demonstration of television teaching and its applications for the entire NCA membership presented at the annual meeting in the Red Lacquer Room in Chicago's Palmer House.

In 1957 the Subcommittee's clinic on "The Values and Potentials of Educational Television", held during the annual NCA meeting, attracted several hundred delegates from all levels of education. In 1958 the Subcommittee conducted a status survey of educational TV installations and practices in the 19 North Central states, published in the NCA Quarterly, and reprinted by the Educational Television and Radio Center for national distribution.

In December, 1959, under a NDEA Title VII contract with the U.S. Office of Education, the Subcommittee brought together 20 nationally recognized authorities in the field to conduct a four-day seminar on "The Uses of Television in Education." Its purpose: to identify, from the ten year record of research and experimentation in the educational uses of television, a valid set of working principles and practices which could be recommended with assurance to the teacher and educational administrator.

Accordingly, in 1960 the Subcommittee, with the approval of the Commission's Steering Committee and the NCA Executive Committee, proposed to the U.S. Commissioner of Education that financial support be provided for conducting a "pilot conference on the dissemination of principles and practices in the uses of television in education," based on the report of the 1959 seminar. Eighty people, representing each NCA member state, five other national accrediting agencies, various national educational organizations and selected educational television authorities would be brought together at Ohio State University in November, 1960, to react to and criticize the scheme of presentation proposed by the Subcommittee. The pilot conference would further appraise the 1959 seminar report (on which the presentation would be based), and, if the reaction so indicated, to recommend a pattern or patterns for other dissemination conferences nationally and throughout the nineteen-state NCA area.

In June, the Commissioner of Education, under the authority of the National Defense Education Act, Title VII, Part B, entered into a contract with the North Central Association for a pilot conference based upon the recommendations of the NCA Subcommittee on Television to be held in Columbus, Ohio, November 12-13-14, 1960. The contract was amended on October 20, 1960 to provide for the further editing of the official report of the 1959 Seminar for use as a working tool in the Pilot Conference, subject to such modification or changes as the conference representatives might indicate. The contract was finally amended on January 1, 1961, following unanimous endorsement by the Pilot Conference members, to make possible the publication and distribution of 25,000 copies of the revised and approved results of the 1959 Chicago "Seminar on the Uses of Television in Education."

II. PURPOSES OF THE CONFERENCE

Section 731 of Part B of Title VII of the National Defense Education Act directs the U.S. Office of Education "to disseminate information concerning new educational media to state or local agencies for use in their public elementary or secondary schools and to institutions of higher education."

Section 731 also enjoins the Office of Education "to provide advice, counsel, technical assistance and demonstrations to state or local educational agencies and institutions of higher education undertaking to utilize such media of communication."

To this end the Office of Education wished to have conducted a conference through which the effective principles and practices concerning the use of television in education may be disseminated to colleges and secondary schools, organizations, agencies and others interested in the use of television in education. The Office also believed that such a conference should be conducted under the auspices of a professional association and found the North Central Association to have evidenced its interest in and qualifications for performing this service and thus was named as an appropriate agency for the task.

The pilot conference was to: (1) demonstrate uses of different kinds of equipment, processes and methods for using television in education; (2) relate uses of television in education to all tools used in education; (3) provide ways for recording the actions and findings of the Pilot Conference; (4) have a potential pattern developed for conducting additional dissemination conferences in the North Central area and beyond; and (5) bring the report of the December, 1959, seminar on the uses of television up to date, if necessary.

III. AIMS AND OBJECTIVES OF THE PILOT CONFERENCE

With the purpose of producing the best means of disseminating to members of the North Central Association and other interested educational organizations the report of the 1959 Seminar on the Uses of Television in Education, the pilot conference was created.

To test the value of the pilot conference as a means for the dissemination of information in a variety of educational situations, participants invited included:

1. Delegates from the nineteen North Central states, representing secondary school and college and university officials.
2. Speakers and consultants experienced in the use of television in:
    (a) open broadcast.
    (b) closed-circuit.
    (c) specialized research and training and in the administrative problems of scheduling, planning and financing educational television.
3. Observers representing accrediting agencies, professional association and other educational organizations involved in television.
4. Members of the North Central TV Subcommittee and officials of the North Central Committee on Research and Development.

A complete list of persons in attendance can be found in the Appendix.

Method of Selecting Invitees.

To sample reactions among representatives of the 3,500 secondary schools and 419 colleges and universities in the North Central Association, the following pattern of selection was used:

Two delegates were invited from each North Central state, the North Central state chairman and a representative selected by him, to help disseminate further the principles and practices of the 1959 Seminar Report and the experiences of the pilot conference.

Within the four North Central states chosen for special emphasis - Ohio, West Virginia, Michigan, and Indiana - states representing four different stages of educational television development,[2] ten delegates were invited from each state. These delegates represented state groups with an interest in educational television: personnel from educational television stations and production centers, television and classroom teachers, high school principals and superintendents, and state departments of public instruction and leaders of higher education agencies, organizations and institutions.

Each state group of ten delegates represented a planning group at the conference. Aiding them in advisory capacities were North Central officers and Subcommittee members and speaker-consultants.

The four planning groups at the state level presented a test of the pilot conference pattern in a regional, multi-state dissemination conference.

The aims and purposes of the pilot conference were:

(1) To test the effectiveness of the revised 1959 Seminar Report as a dissemination document.

(2) To test the pilot conference pattern as a means of disseminating the principles and practices of the report through:

  (a) Introduction to the physical facilities, the processes, and methods established for the use of television in education.

  (b) The provision of opportunities for discussion of these principles and practices and their application to varied educational needs.

(3) To preserve the actions and findings of the pilot conference for further distribution to secondary schools, colleges and universities, and interested educational organizations.

(4) To achieve a pattern of dissemination, through modification and testing of the results of the pilot conference, which may serve for further dissemination conferences.

---

[2] Ohio, with four ETV stations on the air, had a state network in the planning stages; Indiana had two production centers and a national audio-visual library distributing TV educational films; and West Virginia was using commercial TV facilities for college level instruction.

IV. A DESCRIPTION OF THE PROGRAM OF THE CONFERENCE

Giving perspective to the task of the conference, J. Fred Murphy, NCA Vice President, gave a brief history of the NCA's concern with educational television: the creation in 1953 of its TV Subcommittee of the Commission on Research and Service, the annual surveys on educational TV practices, and reports of educational TV status in 1954 and 1958, and the 1959 Seminar on the Uses of Television in Education, which led to the revised seminar report.

Richard B. Hull, director of the Ohio State University Telecommunications Center, and closely connected with the development of educational television from its inception, presented a brief resume of its history and a report on the current status of educational TV.[3]

Conducted tours of representative educational TV facilities followed. At the closed-circuit TV installation of the Ohio State University College of Dentistry, conference delegates saw the studio, control room and viewing rooms and laboratories used for large class instruction and demonstrations.

Ronald B. Thompson, Executive Dean of the Ohio State University Office of Special Services, and author of "The Impending Tidal Wave of Students," related educational TV to "the population explosion" and its effects on education.

"If we rely on expansion of present campuses as the sole solution to the problem," stated Dean Thompson, "it will be necessary to build within the next eighteen years more classrooms, laboratories, offices and other physical facilities than now exist on all of the college and university campuses in the entire United States."

A "case study" of TV use in the junior colleges and universities of the Oregon State System of Higher Education was presented by Glenn Starlin, Director of Inter-Institution Television Teaching at the University of Oregon.

Charles Hettinger, Radio-TV Education Supervisor for the Pittsburgh Public Schools, gave a "case study" of TV use in secondary and elementary school systems in that city, Allegheny County and the larger region served by community-owned educational TV station, WQED.

These different approaches were included in the program to illustrate the variety of patterns in which TV has been successfully used in education.

Delegates toured the facilities of WOSU-TV, The Ohio State University's non-commercial educational TV station, and saw demonstrations of the use of specialized equipment:

(a) the studio rehearsal and production of a typical TV lesson.

(b) videotape and kinescope recording for repeated playback or delayed broadcast of lessons.

(c) a mobile TV station for field demonstrations and the telecasting of other non-studio originated programs.

---

[3] Hull developed the first educationally-owned television station in the U.S. (WOI-TV at Iowa State University in 1950) and was first executive director of the Joint Council on Educational Television.

(d) remote broadcast equipment for on-the-spot pickups of special events.

(e) demonstration of TV lessons received in the classroom and teacher's classroom "follow-up" methods.

(f) specialized production techniques and devices for TV lessons.

(g) desirable modifications in school design and the required TV equipment for using educational television.

(h) use of filmed TV programs as audio-visual aids.

J. Fred Murphy related the ten conclusions of the revised NCA 1959 Seminar Report to the task of the conference.

William H. Ewing, Coordinator of the Greater Columbus Area Educational Television Project, summarized the structure and operation of a "case study" in elementary and secondary school TV utilization in Columbus and adjoining counties with more than 60,000 elementary, secondary and junior college level students involved.

The results of ten years of educational television research, 1950-60, were summarized by Egon Guba, the Coordinator of Research for the Ohio State University College of Education, amplifying and affirming the conclusions of the Seminar Report:

> "There seems to be no doubt from the evidence that learning can be produced by television, and that television is as effective as many conventional methods. In very few cases has TV instruction been found to be inferior to conventional instruction and, in many cases, television was significantly more effective."

The director of University High School at the University of Minnesota, Robert Keller, presented an example of Research in the Teacher's College through use of closed-circuit television for direct observation of teachers in actual classrooms for teacher-training and research, and for distribution of educational films, kinescopes, and demonstrations for teacher education throughout the College of Education.

Clyde Vroman, the NCA's chairman of the Commission on Research and Development, outlined the problems of disseminating the information on educational television in the nineteen North Central states:

> "Our role as one committee of North Central is to bring significant information to member schools and colleges in each of the nineteen states served by North Central. We hope ways can be found by which a group in each state will pick up the convictions of this group and implement this information."

Thomas C. Pollock, Dean of the College of Arts and Sciences of New York University, and author of a report on experimentation with TV in College Classrooms, addressed the conference on "New Patterns and New Media for Education," providing a vision of the college of the future as a synthesis of lecture, tutorial, classroom and individual study approaches.

> "We are challenged to do the best creative thinking...not merely as to how we can use television in the next three or five years. We are challenged to imagine how television and all the other media of education we have can be used to work out the best pattern of education - not necessarily using classrooms at all, but using classrooms where they happen to be the best media for the students."

A symposium followed, addressing itself to the institutional and personnel problems of the school administrator using television in the areas of: scheduling, planning, utilization and financing.

Participating were Paul C. Garrison, Superintendent of Schools, Richmond, Indiana; Philip R. Pitruzello of the School Improvement Program of the Graduate School of Education in Chicago; Kenneth Oberholtzer, Superintendent of the Denver Public Schools; and Miss Helen Seel, Department of Radio-Television, Cincinnati Public Schools.

Mr. Garrison stated, concerning educational TV generally, and participation of his school system in the Airborne Program specifically: "Our teachers and administrators have devoted a great deal of time and effort in studying ways of implementing this challenging technique of learning. It's a thrilling adventure and experience...we feel we would not have been true to our profession unless we made every effort to use these opportunities furnished us."

Superintendent Oberholzter, speaking on financing, listed problems involved in getting on the air: legal and engineering surveys, installations of buildings and equipment, maintenance and the financing of personnel, settings and scenery, etc. Among sources of funds he mentioned grants, gifts, appropriations from school sources, legislatures, national foundations, direct appeals to the public through telethons, brochures, etc. He stressed the need for setting aside funds for research, specially related to improvement of quality of educational programs; the difference between ordinary and extraordinary programs."

Miss Seel stated that "the classroom teacher can either make or break the effectiveness of a television lesson by the very way she turns on the set and introduces the lesson for the day." She further stressed the importance of defining for the television teacher and the classroom teacher their complementary roles.

Mr. Pitruzello, speaking in his capacity as staff associate of the Commission on Staff Utilization of the National Association of Secondary School Principals, said:

> "Although films, film strips, radio, television and teaching machines have been around for a long time, they have not made the impact that they should in the teaching profession. This puts squarely before us the problem of scheduling; there is a rigidity, a tradition about scheduling, that can generally be described as the 40 to 50 minute period." Major recommendation and suggestion...going into some form of team teaching. ...a team of teachers who take the responsibility for a large group of students and let the activity determine the time-block needed."

"Now television programs are used like films...I think what we're after is a TV instructional program complete in itself, with the relation to the work being done as all part of the telecast...I don't think this can be done unless we get a flexibility that will allow it to become an integral part of the program."

Simultaneous team conferences on the four state area of Ohio, Michigan, Indiana and West Virginia were held, with NCA-TV Subcommittee officials and consultants acting in advisory capacities, joining the state "teams" or delegates. Out of these meetings came specific state reports and recommendations on the further dissemination of the revised Seminar report.

V. RESULTS AND RECOMMENDATIONS OF THE PILOT CONFERENCE

Participants at the pilot conference recommended action by the NCA-TV Subcommittee through (a) dissemination of the revised report of the 1959 Seminar, (b) through aid to make possible additional state and regional dissemination conferences, and (c) by action to be initiated through the NCA chairmen in the nineteen states served by the North Central Association. Highlights follow:

1. The conference unanimously voted to support the national survey to determine education's needs in the television spectrum currently being conducted by the National Association of Educational Broadcasters; and to urge that the FCC be advised of the serious concern of American educators over the unavailability of sufficient broadcast channels to meet adequately the present and future needs of education in these United States: The resolution reads as follows:

   "Representatives of the 19 states forming the North Central Association of Secondary Schools and Colleges and representatives of other regional accrediting associations met at Columbus, Ohio, November 12, 13, 14, 1960. The group met at a pilot conference for the Dissemination of Principles and Practices in the Uses of Television in Education as conducted by the subcommittee on television of the Commission on Research and Service of the NCA under contract with the United States Office of Education.

   "Those gathered recognized the increasing need for and uses of television at all levels of American education and reaffirmed the principles of reserving television channels for educational use. The assemblage voted unanimously to support the national survey to determine education's needs in the TV spectrum as currently being conducted by the National Assocation of Educational Broadcasters, and to urge that the Federal Communications Commission be advised of the serious concern of American educators over the unavailability of sufficient broadcast channels adequately to meet present and future needs of education in these United States."

2. The conference unanimously recommended the adaptation of the revised Report of the 1959 Seminar on the Uses of Television in Education, as a basic tool for further dissemination.
   - (a) In view of the highly favorable reaction to the revised report, no recommendations for any major changes in it were advised by the pilot conference.
   - (b) To facilitate its further dissemination, the revised report should be made available in a one-sheet summation of prinicples and practices, and there should be exploration of the possibilities of presenting its contents in a comprehensively illustrated print version, as well as slide-film, film-strip, and 16 mm sound motion picture form.

3. That the pilot conference should serve as the basic pattern for future conferences, adapted when necessary to fit regional and local conditions, exiting facilities, and the audience for whom it is intended.

4. **Whenever possible, future conferences should include a tour of as many available facilities for education by television as possible, modeled on the pattern created for the pilot conference: closed-circuit, open broadcast, variety of equipment and techniques for use. These tours should demonstrate actual "in-operation" situations as well as demonstrate television's uses in relation to uses of other media in education.**

5. **Future conferences should provide an alternative to such a tour of existing facilities for delegates who are already familiar with TV equipment. A suggested alternative: showings of the latest instructional kinescopes, films, and videotapes of lessons, demonstrating a variety of levels of simplicity and complexity of production techniques.**

6. **In further disseminaion, the NCA-TV Subcommittee should go beyond the structure of the North Central membership, and select conference leaders and delegates from representatives of the elementary level, and other involved educational agencies and organizations.**

7. **Whenever possible, the conference delegates should be allowed to "see" actual classes using TV instruction and a classroom teacher presenting a "follow-up" to the televised lesson.**

8. **Select for viewing by conferences representative examples of the finest televised instruction on all levels of education.**

9. **Provide within the framework of the conference an opportunity for extensive discussion on the major issues of financing, scheduling, utilization and planning among delegates and consultants.**

10. **Provide within the framework of the conference, an opportunity for the delegates to hear and question a teacher presenting lessons on television and a teacher using television in her classroom.**

11. **The NCA-TV Subcommittee should continue to act as a source of dissemination of information to the groups and organizations and agencies within and outside the NCA structure, who will continue dissemination beyond the TV Subcommittee's efforts.**

12. **The NCA-TV Committee should be urged to seek further funds to help make possible the holding of further conferences for the dissemination of educational television principles and practices on state and regional bases.**

13. **The delegates to future conferences should include not only NCA members, but key persons representing educationally related organizations: State Departments of pro restricted personnel (?) elementary school principals, superintendents, supervisors and directors of education, teachers, professors, school board members, audio-visual directors, civic leaders, and university personnel, with an emphasis on top school administrators and curriculum directors, both within and outside of the geographical boundaries of the NCA.**

Actions Initiated in Connection with the Pilot Conference.

From statements made in the final sessions of the pilot conference and communications received since, these are some of the major activities and plans arising out of the pilot conference for each of the nineteen North Central states:

ARIZONA: Wants to hold a regional conference with New Mexico, Colorado and Oklahoma. Would like to hold its own statewide dissemination conference. First stages are being planned in a preliminary meeting of the state NCA committee with Robert Krill, Richard Bell, the director of television at Arizona State University, and Benjamin Mertin from the University of Arizona.

ARKANSAS: Wants to hold regional conference with Kansas.

COLORADO: Pleased with the pilot conference program, hopes to share use of television for education with Wyoming. (See Kansas)

ILLINOIS: Plans formation of a state-wide regional steering committee to disseminate information on educational television throughout the state. First step planned: regional workshop of classroom teachers and administrators within range of the TV signals of the Midwest Program on Airborne Television Instruction.

IOWA: Hopes to plan six-state dissemination conference with South and North Dakota, Nebraska, Minnesota and Wisconsin, to be held in Minneapolis-St. Paul.

INDIANA: Wants to plan regional conferences within the state to follow pattern of conference already set for southern area of the state. Recommends that state NCA committee meet with state representatives of elementary education and other "grassroots" people of the entire Indiana educational structure for planning meeting. Dissemination conferences could possibly be related to Indiana's use of the Midwest Airborne Television Program.

KANSAS: Wants to hold regional conference with the states of Oklahoma, Wyoming, Colorado and Nebraska. Denver, Colorado, is considred the logical conference site.

MICHIGAN: NCA state committee would like to sponsor state-wide and area conferences within Michigan. Delegates to the proposed state-wide conference would include secondary school superintendents and principals, teachers, school board members and university personnel. Conference would provide for:

(a) discussion of the major issues in using TV for education.

(b) research findings and the current status of educational television report.

(c) motivation for delegate's consideration of using TV in their own organization's plans and programs.

(d) provide the leaders for further area conferences within the state.

MINNESOTA: (see Iowa)

NEBRASKA: (see Iowa)

NORTH DAKOTA: (See Iowa)

OHIO: Wants to hold state-wide meeting for key regional educational personnel, school superintendents and college officials; regional meetings within the state (corresponding to Ohio Educational Association regions already existing); state conferences within the framework of meetings scheduled by other established associations and organizations such as the Ohio AASA, ASCD, and the Association of Secondary School Principals.

WEST VIRGINIA: Wants to hold a state-wide conference of representatives of civic and professional organizations, to ask the West Virginia legislature to create an educational television authority, one of whose aims would be production of television programs for the celebration of the 1963 West Virginia Centennial, and whose long-range goal would be the establishment of state educational television and radio stations. The state conference would also follow applicable parts of the pilot conference program.

SOUTH DAKOTA: (See Iowa)

WISCONSIN: (See Iowa)

WYOMING: (See Kansas)

VI. RESPONSIBILITIES OF NCA-TV SUBCOMMITTEE

In accordance with the original injunction of the North Central Association Commission on Research and Service, the TV Subcommittee will continue to inquire into the status of the uses of television in education, and periodically bring to the attention of member institutions pertinent information.

The subcommittee feels obligated: (1) to continue periodic examinations of technological developments in television and related electronic media in terms of their existing and potential applications. (2) to continue its leadership as a part of its own basic responsibilities for the dissemination of information in these areas; (3) to assist states and regional groupings of North Central members and other interested organizations, including other accrediting associations.

With allowances for localized needs, "the Pilot Conference on the dissemination of principles and practices in the uses of television in education" may serve as a valuable resource, along with the revised report of the 1959 seminar, in providing the basis for further conferences to disseminate information and provide opportunities for discussions on the critical issues in using television for education.

Reports and recommendations of the teams were reviewed by a committee of NCA officials and consultants. Every attempt was made to insure that these recommendations took advantage of the educational television facilities and activities in existence in the geographical area in question, and of their collective experience of the reviewing committee and the consultants.

Group consideration of the team reports and formulation of the recommendations and final report of the entire conference followed.

The final resolutions and recommendations of the pilot conference are detailed in the section marked "Results and Recommendations."

THE USES OF TELEVISION IN EDUCATION

APPENDIX A.

THE USES OF TELEVISION IN EDUCATION

Revised and Edited, 1960.

Prepared by the Subcommittee on Television of the
Commission on Research and Service of the
North Central Association of Colleges and Secondary Schools

Under contract with the United States Office of Education

Edited and Revised 1960

THE USES OF TELEVISION IN EDUCATION

Prepared by the Subcommittee on Television of the
Commission on Research and Service of the
North Central Association of Colleges and Secondary Schools

Under contract with the United States Office of Education

Edited and Revised 1960

MEMBERS
SUBCOMMITTEE ON TELEVISION
NORTH CENTRAL ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS

The members of the Subcommittee who conceived and conducted the Seminar are educators experienced in the field of educational television. Mr. Hull, Mr. McKune, Mr. Brown, and Mr. Emery each were engaged in some of the earliest college level experimentation with televised instruction and have continued their interest and activity in that area. Miss Mitchell for several years has directed one of the important experimental projects of the secondary school level. Mr. Fleming has contributed representative thinking from the secondary school administrator's view as to the problems and opportunities inherent in using television for education in the American high school. Mr. Murphy, Mr. Endicott, and Mr. Vroman represent the official interest of the North Central Association and have been very helpful in the projects and work of the Subcommittee on Television.

Leslie E. Brown Dean of Administration Cleveland College	Western Reserve University Cleveland, Ohio
Frank S. Endicott Director of Placement	Northwestern University Evanston, Illinois
Donald G. Emery* Superintendent	Shaker Heights Public Schools Cleveland, Ohio
Robert L. Fleming Principal	South High School Youngstown, Ohio
Richard B. Hull, Director* Telecommunications Center	Ohio State University Columbus, Ohio
Laurence E. McKune Associate Professor Continuing Education Television	Michigan State College East Lansing, Michigan
Wanda B. Mitchell Director, Television Project	Evanston Township High School Evanston, Illinois
J. Fred Murphy Principal	Broad Rippie High School Indianapolis, Indiana
Clyde Vroman Director of Admissions	University of Michigan Ann Arbor, Michigan

*Chairman of NCA TV Subcommittee (1959), representing the University of Omaha as Dean of the College of Adult Education and Graduate Division (after July, 1960, Richard B. Hull, Chairman).

MEMBERS
SUBCOMMITTEE ON TELEVISION
NORTH CENTRAL ASSOCIATION OF COLLEGES AND SECONDARY SCHOOLS

The members of the Subcommittee who conceived and conducted the Seminar are educators experienced in the field of educational television. Mr. Hull, Mr. McKune, Mr. Brown, and Mr. Emery each were engaged in some of the earliest college level experimentation with televised instruction and have continued their interest and activity in that area. Miss Mitchell for several years has directed one of the important experimental projects of the secondary school level. Mr. Fleming has contributed representative thinking from the secondary school administrator's view as to the problems and opportunities inherent in using television for education in the American high school. Mr. Murphy, Mr. Endicott, and Mr. Vroman represent the official interest of the North Central Association and have been very helpful in the projects and work of the Subcommittee on Television.

Leslie E. Brown Dean of Administration Cleveland College	Western Reserve University Cleveland, Ohio
Frank S. Endicott Director of Placement	Northwestern University Evanston, Illinois
Donald G. Emery* Superintendent	Shaker Heights Public Schools Cleveland, Ohio
Robert L. Fleming Principal	South High School Youngstown, Ohio
Richard B. Hull, Director* Telecommunications Center	Ohio State University Columbus, Ohio
Laurence E. McKune Associate Professor Continuing Education Television	Michigan State College East Lansing, Michigan
Wanda B. Mitchell Director, Television Project	Evanston Township High School Evanston, Illinois
J. Fred Murphy Principal	Broad Ripple High School Indianapolis, Indiana
Clyde Vroman Director of Admissions	University of Michigan Ann Arbor, Michigan

*Chairman of NCA TV Subcommittee (1959), representing the University of Omaha as Dean of the College of Adult Education and Graduate Division (after July, 1960, Richard B. Hull, Chairman).

THE USES OF TELEVISION IN EDUCATION

Foreword

For education, television is one of the most significant technological developments since the invention of printing.

As the voluntary accreditation association in nineteen states,[1] the North Central Association of Colleges and Secondary Schools is concerned with the development and maintenance of high standards of education. Recognizing the importance of television, in 1953 the NCA appointed a Subcommittee on Television within its Commission on Research and Service. The function of the subcommittee was to inquire into the status and uses of television in education and to bring to the attention of member institutions pertinent information in this regard. In its first five years, the subcommittee published two reports through the North Central Association Quarterly (July, 1954, and April, 1958) and arranged a demonstration of educational television at the annual convention of the NCA in 1958.

In 1959, with the approval of the Commission's Steering Committee and the NCA Executive Committee, the subcommittee proposed to the U.S. Commissioner of Education that financial support be provided for a special seminar, whose purpose was to consider the uses of television in education, to assess present knowledge in this connection, and to identify areas needing study and research. About twenty-five persons from among those best informed and others having special interest in the future development of educational television were to be invited to participate in the seminar. The United States Office of Education, under the authority of the National Defense Education Act, Title VII, Part B, entered into a contract with the North Central Association for this seminar.

The seminar was held in Chicago on December 3-6, 1959. The names of the participants are listed in Appredix 1. A report of the seminar was published in initial form by the Subcommittee on Television on January 31, 1960.

Initial responses to this report indicated that it was so valuable that it was worthy of editorial revision and wide distribution. With further assistance from the United States Office of Education, the subcommittee asked a member of the 1959 seminar, Dean Thomas Clark Pollock of New York University, to prepare the report in its present form for consideration by members of the 1959 seminar group and others meeting in Columbus, Ohio, on November 12-14, 1960. (The present report was approved at that meeting.)

---

[1] Including 3,500 secondary schools, 419 colleges and universities in the states of Arizona, Arkansas, Colorado, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, New Mexico, North Dakota, Ohio, Oklahoma, South Dakota, West Virginia, Wisconsin, and Wyoming.

The NCA Subcommittee on Television wishes to record here its appreciation to the United States Office of Education, the NCA Executive Committee, and the members of the Commission on Research and Service for their generous assistance and cooperation in this project. The subcommittee is especially grateful to the members of the seminar for their time and their informed analysis of the present status of the uses of television in education. This analysis of course represents the opinions of the members of the seminar and not necessarily those of the United States Office of Education. It is the hope of the subcommittee that this report will encourage educators to continue serious exploration of present and potential uses of television in education.

The Subcommittee on Television
of the North Central Association
of College and Secondary Schools

REV. October, 1960

THE USES OF TELEVISION IN EDUCATION

I. Principles

Although still in its infancy, television has already had such an impact upon the collective mind of our society and shown such promise of value for the individual citizen that all educators must face the question, "What can this medium mean for the extension and improvement of education?" The question must in 1960 be explored in the light of the evidence developed in the last decade. To put the question aside lightly is to be irresponsible at a time when educators face challenges calling for vision and leadership of the highest order; but to embrace the medium without thoughtfully weighing the problems inherent in its most effective use is as impractical as ignoring its existence and availability is irresponsible.

Television is a Medium of Communication

Television has no magic. No matter how complex its electronic processes may be, television is simply another medium of communication, like a book or a human voice. Communication begins with intelligible transmission and ends with intelligent reception; any medium of communication is but a middle link between two or more minds. The medium may be the gesture of a hand, sound waves from a human larynx, ink impressions from movable type arranged on the pages of a book, radio waves transmitted and gathered into a receiver, or electronic emanations and receptions involving television equipment. It is nevertheless properly viewed by the educator as simply an actual or possible intermediate link in a total act of educational communication.

Elaborate refinements in the technology of this "middle link" are possible. But the importance of what is to be transmitted is not affected by the medium of transmission itself. What is transmitted through any medium may be good or bad, harmful or helpful, simple or complex, ignorant or learned. Whether the "middle link" is as simple as a hand signal or as complicated as a coast-to-coast telecast, the medium of communication should not be confused with what is to be communicated.

The advantages of using television in education lie in the extension of the impact of superior teachers, the multiple sensory impact on the student, and the one-to-one intimacy of the learner with what appears on the television screen. Television has many advantages, but is not an educational cure-all. It will not become the cause of technological unemployment among teachers. The responsibility of educators is to use the advantages of the television medium to achieve the goals of education more effectively.

Television does not modify the recognized goals of education; nor does it require the elimination of the classroom, even as the advent of the book did not mean the elimination of the teacher. Rather, it suggests alternative and possibly better techniques for reaching the same goals. Alert educators have always experimented with and learned to use new teaching methods and devices. Television holds promise of improving the effectiveness of the educational process.

Television is a Tool

Television is a tool for the use of educators. The past decade has seen the first serious experiments with the use of this tool. Many diligent efforts have been made to determine ways in which the facility of television can be used constructively in the educational process. Much has been learned; much remains to be learned.

What has already been learned indicates that television can become a basic educational tool for every pupil and serious-minded adult in the nation. Wisely used, it can be as important in promoting learning as is the printed word. Educational television and the printed word are neither mutually exclusive nor antagonistic; they are complementary. Further, television can be a significant aid in improving the quality of teaching. Its full educational value will of course be discovered only be continued experimentation designed by educators.

If television can help bring about the teaching of more pupils by better teachers and accomplish this as effectively as other methods or more effectively and at a cost within reasonable limits, it is incumbent upon educators to examine this possibility with great care. If television can alleviate school population pressures, make our best teachers available to more learners, save dollars in conventional school plant costs, make the process of learning more effective and satisfying, and provide a wider range of experiences than hitherto possible,--and there is good reason to believe that wisely used it can do all these things--then certainly all educators should move as rapidly as possible in their own planning and through their local boards of control and state legislatures to secure the benefits of the medium.

Basic Principles

The following principles may now be safely accepted as bases for the planning and use of television in education.

1. Television is an important instrument for teaching and learning at all levels: elementary, secondary, higher, and adult.
2. Television is a new medium of communication, not a new method of teaching and learning. It permits many variations in the teaching-and-learning process, but its effecitve use is based upon the same fundamental psychological principles which apply to all successful processes of learning. The attitudes of the learner and the results of teaching are as certain to be affected by the quality of instruction and its adaptation to the needs and motivations of the learner in televised as in conventional instruction.

3. Students can learn as well where television is used by the teacher as in the conventional classroom situation; frequently, they can learn better.

4. The proper use of television provides new incentives for students to assume more responsibility for learning.

5. Television is not a self-contained educational entity, but an instrument which is significant only in the particular educational context in which it is employed.

6. Optimum realization of television's potential can result only from integration of the teaching arts, the graphic arts, and the electronics communication process.

7. The use of television can improve the total program of instruction.

8. Effective television teaching demands more preparation and the assistance of more specialized personnel than does conventional instruction.

9. The successful use of television imposes responsibility for and highlights the necessity of cooperation among administrators, teachers, and other specialized personnel.

10. Television is such a versatile, dynamic, and new medium that its educational use not only encourages but demands a continuous appraisal of the ways in which it is or may be utilized.

11. Television provides new and better ways of relating the activities of pupils, teachers, and parents and making the community more aware of educational processes and needs.

12. Appreciation of the values of television as an educational medium increases in proportion to experience with its proper uses.

II. Present Practices in Educational Television

In the last decade a number of different practices in regard to the organization, administration, teaching, facilities, and financing of educational television have been used successfully in various localities. No one combination of practices can be recommended as a model in the application of television to all the varied purposes of education. Each administrator is charged with the responsibility of identifying local needs, studying successful practices, and adopting the television techniques which will best serve the educational needs of his particular community. A check list of present practices, each of which has proved valuable in at least one community, is presented below.

Organization and Administration

In a particular institution the policies and procedures for educational television are determined and administered by one of the following:

1. A board
2. An administrative executive officer
3. A faculty committee
4. An individual director

The functional responsibility for educational television within a particular institution is organized as:

1. A separate department on a level with other academic departments, or
2. Part of another department, such as journalism, speech and drama, audio-visual, or information services, or
3. An administrative unit with access to all departments

Teachers for Television

The television or "studio teacher" is usually selected after he has volunteered for the task and has been given an "audition" or try-out before television cameras.

The compensation for the television teacher usually is made by:

1. Released time (Release from two regular classroom periods for one television period is a common formula.), or
2. Extra payment, or
3. Provision of clerical help

Frequently "teaching teams" plan the content of a lesson or demonstration and the technique of its presentation, and thus assure its integration into the classroom lesson plan. A "teaching team" is composed of a:

1. Studio teacher and a classroom teacher, or
2. Group of three or more teachers, or
3. Teacher and members of a production staff

The special preparation of studio and classroom teachers for their roles in educational television is secured by their:

1. Learning on the job or
2. Attending special summer workshops

Some colleges and universities now offer teacher-training programs and special workshops in the use of television.

Production Facilities

Television lessons, lectures, and demonstrations are presented from a:

1. Permanent television studio equipped with cameras, lights, and film or/and video-tape recording equipment, or
2. Mobile television unit in a laboratory or field situation, or
3. Television camera in a regular classroom

The permanent television studio may be owned by:

1. The institution, or
2. A community agency, or
3. A commercial television station

Production Practices

Educational television production practices are varied and numerous. The variety is suggested by the following items.

The studio teacher may have:

1. A class with him in the studio, or
2. Only a few students with him in the studio, or
3. No students with him in the studio.

The scenic, graphic, lighting, and camera work may be:

1. Simple, or
2. Complex

The television production may be carried on by a:

1. Large team, or
2. Small team, or
3. Single individual using a remote control camera

A typical presentation would be rather complex, involving a television teacher, two cameramen, an audio man, a video control man, a "floor man" to assist the teacher with visual aid materials and timing, and a production director, who supervises the entire lesson or demonstration both in rehearsal and "on the air."

The television lesson may be transmitted directly to the students at the time of its presentation; or it may be recorded on kinescope film or video tape for delayed or repeated use.

Transmission Facilities

Educational television programs are transmitted, either live or from recordings, to students by:

1. Normal VHF (very high frequency) or UHF (ultra high frequency) from a regular educational or commercial broadcasting station, or
2. Low-power transmission for limited-area reception, or
3. Direct wire or cable, which connects a studio to classrooms in the same building or different buildings, or
4. Microwave relay, which performs the same functions as a cable "without wires"

Reception of Educational Television

The student may receive the television program from a receiver in:

1. A central viewing room at school, or
2. A regular classroom, or
3. His own home

The viewing of television programs by students in classrooms is almost always supervised, except in some college classrooms.

Financing Educational Television

The sources of support for educational television include the following:

1. Contribution of a set amount (one dollar, for example) per year per pupil within viewing range of the station, made by a board of education to an educational television station.
2. Community funds solicited in the same way that social agencies seek funds from the public
3. Foundation support for initial experiments and demonstrations

4. An item for television in the regular budget prepared by a board of education or a board of trustees

5. Tuition charges for credit-bearing courses

6. Contributions from business and industry for specialized courses

Television equipment may be owned by the institution or rented on a monthly basis.

III. Desirable Research

To extend and refine our present knowledge of the best ways to use television, further research is needed. One source of funds for such research is through Title VII of the National Defense Education Act, administered by the United States Office of Education. As educators use television as an educational medium in the years ahead, they should attempt to contribute answers to the following questions based on careful research.

First, some important general questions:

1. What methods will improve the evaluation of the effectiveness of television in the learning process?
2. How does the use of television affect individuals and small groups in a learning situation?
3. What methods can be formulated to study the implications of interaction between the teacher and the learner in educational television?
4. What is the role of student motivation in a learning situation which employs television?
5. What bases for inter-disciplinary cooperation are necessary for the different disciplines which may be involved in a televised program or course?
6. How can television be used to overcome the lag between technology and culture?

Second, some questions of particular importance to school administrators and teachers:

1. What are the specific qualifications of a good television teacher?
2. What is the role of the classroom teacher in a class which receives a televised lesson?
3. What criteria should be established for inter-institutional use of educational television programs?

4. What relationships of administrators, teachers, and students will best promote the use of television in education?

5. What kinds of printed materials such as textbooks, study guides, lesson outlines, and correspondence materials are most helpful in relation to televised teaching?

6. How is television best used in connection with new technological developments such as teaching machines, video-tape recorders, multiple transmission, particularly in situations which involve routine practice and drill?

Third, some questions concerning the relation of television production and facilities to learning:

1. To what extent do different details in the production of a televised lesson influence learning?

2. To what extent does the personality of the television teacher influence learning?

3. To what extent do different physical conditions of transmission and reception affect learning?

4. What are the most useful relationships between educational television and other facilities and services utilized for teaching?

5. How do different techniques of televised presentation affect the pupils' perception and retention of what is being taught?

And finally, some questions in the area of adult education:

1. What are the specific values of organizing community groups for viewing educational television as a basis for continuing education?

2. What are the values of using lay leaders rather than professional leaders for such groups?

3. What are the values to such groups of various techniques for communicating with participants in a television program as part of the educational process?

A number of research studies which have received grants under Title VII of the National Defense Education Act are exploring areas mentioned above.

The preceding list, though extensive, is of course not exhaustive; but it may serve to suggest directions of research which are desirable as educators explore further the best ways to use television as a medium of education.

IV. Conclusions and Recommendations

A careful examination of the uses of educational television at the end of its first decade leads the members of the Seminar, and they believe practically all serious students of the subject, to a number of conclusions, some of which have been stated above.

Some Conclusions

It is certain, for example, that the facility of television is now being used successfully as an educational tool at all age levels. It is clear that students can learn as well where television is used by the teacher as in the conventional classroom situation, and frequently better. It is clear that administrators at all levels of education should study ways in which television can be used as an important medium of education.

Educational television is not likely to cause technological unemployment. It may, however, result in some modification of the traditional role of the teacher, and especially of the teacher in a self-contained classroom who has not been accustomed to cooperating with a librarian and an audio-visual-aids department in providing opportunities for learning for her pupils.

Most teachers adapt themselves readily and successfully to the use of television as a medium for teaching and learning. They need, of course, to have the opportunity to become acquainted with the advantages of television as an educational tool.

The educational benefits resulting from the use of television tend to be related directly to the faculty investment of time and interest in planning.

Television is useful in education in many different ways. It makes possible important improvements in the curricula of small schools; it is a useful supplement to instruction in large schools.

The values of television in education which have been demonstrated to date make continuing broad experimentation urgent and even imperative.

The cost of employing television varies greatly in relation to many factors; but it is not prohibitive in terms of normal educational expenditures.

Recommdendations

To the end that the goals of education accepted by schools and colleges throughout the United States may be achieved as efficiently and fully as possible, the members of the Seminar make the following recommendations.

1. Educational institutions of small enrollment should analyze carefully the possibility of supplementing their curricula by televised instruction from other institutions and educational television installations.

2. Educational institutions of large enrollment should analyze carefully the ways in which television may be used to make their educational activities more efficient.

3. Cooperative study of how best to use television should be undertaken by all school faculties.

4. In using television a conscious effort should be made to improve articulation and coordination between grade levels and among institutions.

5. Before experimental programs are initiated, teachers and administrators should determine their objectives in using television, study the research evidence in the field, and create a suitable attitudinal climate.

6. Current sources of reliable information and counsel in regard to educational television should be used to avoid unnecessary duplication of experimental efforts.

7. Teacher-training institutions should orient future teachers to the use of educational television.

8. State departments of public instruction and state institutions of higher education should assume special responsibilities in helping educators and educational organizations become aware of the values of television as an educational medium.

9. The United States Office of Education and national educational organizations should develop an improved system of coordinating research activity and identifying areas for research in the educational uses of television, in order to avoid unnecessary duplication and to assure wide and prompt dissemination of research findings.

10. Educators should make the final decisions about the educational applications of television, in full recognition of the fact that the cooperation and assistance of commercial and manufacturing interests are important to the continued growth of educational television.

11. Recognizing that foundations have made a significant contribution to experimental and established educational television activities, educational institutions should clearly foresee their own ability to sustain the continued use of television in education.

APPENDIX 1.
Participants in Educational Television Seminar
December 3-6, 1959

Robert Allen — National Home Study Council
Executive Director — Washington, D. C.

Recipient, Exceptional Civilian Service Award, Department of Army, for educational consultation and research activities including television, and Fellowship in ETV for U.S. and Europe, author, Television, Education and the Armed Forces; Educational advisor, Station WXEX-TV, Richmond-Petersburg, Va., 1955-58.

Richard H. Bell — Arizona State University
Director, Radio-TV Bureau — Tempe, Arizona

Producer of ETV programs for eleven years at Ohio State University and Arizona State University; originated first ETV programs at both institutions; Now activating new ETV station at Phoenix; Successful free-lance writer in TV drama.

Lawrence F. Costello — New York State
Associate in Educational Communications — Education Department
Division of Communications in Education — Albany 1, New York

Television project director at Levittown, N.Y.; Closed Circuit television project director, STate College for Teachers at Albany; Director, Center for Instructional TV, New York University, 1959-1960.

Clifford G. Erickson — Chicago City Junior College
Assistant Dean in Charge of Television — Chicago, Illinois

Director of TV College plan leading to Associate in Arts degree through wide selection of junior college courses through WTTW Chicago.

Howard L. Johnson — Emily Griffith Opportunity School
Executive Director, KRMA-TV, Denver and Principal — Denver, Colorado

Board of directors, National Association of Educational Broadcasters; Director Denver's ETV station (licensed by public schools); Past president, National Association Public School Adult Education.

Jack G. McBride — University of Nebraska
Director, KUON-TV — Lincoln, Nebraska

Director, the production consultation project, National Educational Television and Radio Center and the Fund for Adult Education; Producer ETV training films; First vice-president, NAEB; Co-design-and-director Nebraska TV-Correspondence Study Project; Has visited all ETV stations.

James S. Miles
Director, WBAA Radio-TV
Purdue University
Lafayette, Indiana

First executive director of NAEB and currently on board of directors; Member, advisory and operating staff of the new Airborne Television Project; in charge of all radio-TV work at Purdue.

Kenneth E. Oberholtzer
Superintendent
The Public Schools
Denver, Colorado

Charter member, board of directors, the National Educational Television and Radio Center; Instrumental in establishing KRMA-TV as Denver Schools educational channel; Consultant in ETV programs determination for in-school and out of school broadcast.

Thomas Clark Pollock
Dean, Washington Square College
New York University
New York City

In charge of closed-circuit experimentation in New York University, 1956-58; in charge of Sunrise Semester telecourses over WCBS-TV, New York, 1958 to present; Author Closed Circuit Television as a Medium of Instruction. 1955-56.

John C. Schwarzwalder
General Manager
Twin City Area ETV Corporation
KTCA-TV
Minneapolis, Minnesota

Founder and first manager of pioneer ETV station, KUHT, University of Houston, 1953; Producer of numerous ETV film series; Author of articles on ETV; Chairman, recent Washington Conference on educational television networks.

Laurence Siegel
Director, Institutional Research Science
Miami University, Oxford, OHio

Special research in large group instructional procedures including use of television techniques; Author, articles in same area.

Harry J. Skornia
President
National Association of Educational Broadcasters- Urbana, Illinois

Chairman, Mass Communications Committee, U.S. National Commission for UNESCO; Director of broadcasting, Indiana University; Consultant, Office of Military Government (Germany), U.S. forces in Austria, and Voice of America.

Dorothy R. Smith
Secretary, Committee on Television
American Council on Education
Washington, D. C.

Editor, the Educational Television Newsletter of the American Council on Education; as secretary to the ACE-TV Committee has been instrumental in the several publications on ETV issued by that committee; and special correspondent on ETV to member institutions.

Ann C. Spinney
Executive Associate

The Fund for Adult Education
White Plains, New York

Many years of teaching and research in adult education, radio and television; Educational script writer; involved in ETV since original channel reservations; with The Fund since 1951.

Glenn Traw
Director

S. W. Indiana Educational TV Council
Evansville, Indiana

Educator; Organizer and director of area educational television council for multi-county region in SW Indiana to promote in-school use of ETV.

John F. White
President

National Educational Television
and Radio Center
White Plains, New York

Educator; General Manager, Metropolitan Pittsburgh Educational Television Station, WQED; Vice President Western Reserve University; Exerts unusual influence on ETV in present position.

Harold E. Wigren
ETV Consultant

National Education Association
Washington, D. C.

On leave as director of Audio Visual Education for public schools of Houston; Coordinator for three recent seminars on ETV and edited resulting publications; Represents NEA in ETV meetings and disseminates findings.

Lewis Zerby
Professor of Philosophy

Michigan State University
East Lansing, Michigan

Successful lecturer and teacher over television in credit course instruction.

APPENDIX 2.

SOURCES OF INFORMATION AND SERVICE IN EDUCATIONAL TELEVISION

American Council on Education, Committee on Television
1785 Massachusetts Avenue, N.W., Washington 6, D. C. (HUdson 3-6620)
Mrs. Dorothy R. Smith, Secretary

Publishes newsletter; Has information on closed circuit and telecourses. Concerned with ETV policy developments transcending all levels of education.

Educational Media Branch, U. S. Office of Education
Washington 25, D. C.
C. Walter Stone, Director

Administers the new Educational Media Program, authorized by Title VII of the National Defense Education Act of 1958 (Public Law 85-864). Title VII directs the U.S. Commissioner of Education to (1) conduct, assist, and foster research and experimentation in the educational uses of new communications media; and (2) disseminate information concerning these new media to state and local public school systems and to colleges and universities. Also, general source of ETV information. *Conducts and* publishes studies. Prepares directories of telecourses, closed circuits, ETV stations, college and university TV curricula, etc.

Institute for Education by Radio-Television
Derby Hall, Ohio State University, Columbus 10, Ohio
I. Keith Tyler, Director

Annual international symposium of educational and public service broadcasters. Deals with educational broadcasting problems of all types -- clinics, workshops, addresses. Publishes proceedings.

*Joint Council on Education Television (JCET)
1785 Massachusetts Avenue, N.W., Washington 6, D.C. (HUdson 3-6620)
David C. Stewart, Executive Director

Embraces all major national educational organizations (NEA, Land Grant Colleges, PTA, etc.)* Provides level and engineering advice on ETV station application and construction, Liaison with FCC for education. Publishes "Factsheet," a running inventory on ETV stations on the air and pending. Prepares lists of directors of ETV stations and personnel.

Learning Resources Institute
680 Fifth Avenue
New York 19, New York
John W. Taylor, Acting President

The Institute seeks more effective ways of using learning resources--learning machines, films, electronic devices, textbooks, syllabi, radio, and television production to achieve higher educational quality. On a national and international level this organization will provide consultative service for school, college and adult education agencies; it will serve as a center for developing fully important aspects of development; distribution and use of learning resources.

Midwest Council on Airborne Television Instruction
Memorial Center, Purdue University Campus, Lafayette, Indiana
John E. Ivey, President
Effective February, 1961, courses on video tape taught by outstanding teachers recruited from all over America will be televised from a DC-7 aircraft to many receiving classrooms.

*National Association of Educational Broadcasters (NAEB)
1346 Connecticut Avenue, N.W., Washington 6, D. C.
H. J. Skornia, President (after November, 1960: William G. Harley)
Professional organization for all educational broadcasters (radio and television). Recently merged with Association for Education by Radio-TV. Publishes newsletter, journal, conducts research in costs, school and university ETV policy, maintains engineering management, program and production consulting services. Holds periodic training workshops.

National Educational Television and Radio Center (NETRC)
Colosseum Building, 10 Columbus Circle, New York 19, New York
John F. White, President
National educational television program service for educational and commercial stations. Research data and general information on all phases of ETV movement. Publishes Newsletter.

Television Digest
Wyatt Building, Washington 5, D.C.
Weekly newsletter (non-technical) on television, electronics, associated parts and industries. Publishes semi-annual Factbook. Both available, special rate to educators.

Southern Regional Educational Board
Atlanta, Georgia
Robert Anderson, Secretary; Graydon Ausmus, Chairman, Educational Television Comm. Fourteen-state organization. Deals with educational problems on regional basis. Publishes monthly ETV newsletter on ETV developments in region.

*Other institutions included in the Joint Council on Educational Television:
American Association of School Administrators
American Council on Education
American Association of Land-Grant Colleges and State Universities
Council of Chief State School Officers
National Association of Educational Broadcasters
National Association of State Universities
National Citizens Committee for Educational Television
National Congress of Parents and Teachers
National Education Association of the United States
National Educational Television and Radio Center

Tentative Bibliography

1. Carpenter, C. R., and L. P. Greenhill, An Investigation of Closed-Circuit Television for Teaching University Courses, Report No. 2. The Pennsylvania State University, University Park, Pennsylvania, 1958.

2. Closed-Circuit Television Teaching in Washington County, 1958-1959. The Board of Education, Hagerstown, Maryland, 1959.

3. College Teaching by Television. American Council on Education, Washington, D. C., 1958.

4. Dreher, Robert. and Walcott H. Beatty, Instructional Television Research: Project Number One. San Francisco State College, San Francisco, California, April, 1958.

5. Dunham, Franklin, Ronald R. Lowdermilk, and Gertrude G. Broderick, Television in Education. Bulletin 1957, No. 21., U. S. Department of Health, Education, and Welfare, U. S. Government Printing Office, Washington, D. C., 1958.

6. Educational Television and the Schools. Educational Television and Radio Center, Ann Arbor, Michigan, 1958.

7. Educational Television Directory, January, 1960. Joint Council on Educational Television, 1785 Massachusetts Avenue, N.W., Washington 6, D. C., 1960.

8. Erickson, Clifford G. and Hymen M. Chausow, Experiment in Offering College Courses for Credit via Open-Circuit Television. Chicago City Junior College, April, 1959.

9. Glendinning, Katherine and Veronica Casey, Report on Some Uses of ETV Summer Workshop, 1958. NAEB Research Fact Sheets, Series 1, Number 48, NAEB Journal, December, 1958.

10. Instructional Television Research Reports, Technical Report 20-TV-4. U. S. Naval Training Device Center, Port Washington, L. I., New York, 1956.

11. Interaction in Learning: Implications for Television. Department of Audio Visual Instruction, National Education Association, 1201 Sixteenth Street, N. W., Washington 6, D. C., 1959.

12. Klapper, Hope L., Closed-Circuit Television as a Medium of Instruction at New York University, 1956-1957. New York University, 1958.

13. Lefore, Albert R., Jack D. Wilson, et al, Instructional Television Research: Project Number Two. San Francisco State College, San Francisco, California, Fall, 1958.

14. New Teaching Aids for the American Classroom, A Sumposium on the State of Research in Instructional Television and Tutorial Machines. The Institute for Communications Research, Stanford, California, 1960.

15. Macomber, F. G., L. Siegel, et al, Experimental Study in Instructional Procedures: Report Number Two. Miami University, Oxford, Ohio, October, 1957.

16. Martin, John R., Two-Way Closed-Circuit Educational Television. Research Reports Nos. 948-1,2, and 3. Case Institute of Technology, Cleveland, Ohio, January, February, and July, 1957.

17. Pollock, Thomas Clark, et al, Closed Circuit Television as a Medium of Instruction, 1955-1956. New York University, October, 1956.

18. Siepmann, Charles A., Radio, Television and Society. Oxford University Press, New York, 1950.

19. Siepmann, Charles A., Television and Education in the United States. Unesco, Paris, 1952.

20. Siepmann, Charles A., TV and Our School Crisis. Dodd, Mead and Company, New York, 1958.

21. SToddard, Alexander J., Schools for Tomorrow: An Educator's Blueprint. The Fund for the Advancement of Education, 477 Madison Avenue, New York, 1959.

22. Teaching by Television, A Report from The Ford Foundation and The Fund for the Advancement of Education. The Ford Foundation, 477 Madison Avenue, New York, 1959.

23. Television in Our Schools. Joint Committee on Educational Television, 1785 Massachusetts Avenue, N. W., Washington 6, D. C., 1955.

24. The Public Schools and Television. A Case Book of Programming Practices. Southern States Work Conference, Florida, (n.d.).

APPENDIX B.

INVITATION AND REGISTRATION LIST

NORTH CENTRAL ASSOCIATION--U.S. OFFICE OF EDUCATION
PILOT CONFERENCE ON THE USES OF TELEVISION IN EDUCATION

November 12, 13, 14, 1960

INVITATION AND REGISTRATION LIST

Erling S. Jorgensen
Northwest Association of
Secondary and Higher Schools
Montana State University
Missoula, Montana

Mitchell P. Briggs
Western College Association
Fresno State College
Fresno, California

Albert J. Geiger
Southern Association of Colleges
and Secondary Schools
Suite 592, 795 Peachtree St., N. E.
Atlanta 8, Georgia

W. Howard Niblock
New England Association of Colleges
and Secondary Schools
Winchester High School
Winchester, Massachusetts

Gene D. Gisburne,
Middle States Association of
Colleges and Secondary Schools
University of Pennsylvania
Philadelphia 4, Pennsylvania

J. Fred Murphy
North Central Association of
Secondary Schools and Colleges
Broad Ripple High School
Indianapolis, Indiana

Indiana

Robert Holmes
Coordinator of Secondary Curriculum
New Albany Public Schools
New Albany, Indiana

Otto Hughes, Ass't. Chairman
Indiana State Committee, NCA
Director of University Schools
Indiana University
Bloomington, Indiana

Mendel Sherman
Audio-Visual Center
Indiana University
Bloomington, Indiana

James Miles, Director
Radio and Television
Purdue University
Lafayette, Indiana

Hubert Scott, Ass't. Supt.
Evansville School Corp.
200 N. W. Seventh Street
Evansville 8, Indiana

Michigan

Carroll Munshaw
Wayne State University
Detroit, Michigan

Ruth E. Hartke
Elementary Education Coord.
Dearborn Public Schools
Dearborn, Michigan

Irvin G. Wolf, Principal
Denby High School
Detroit, Michigan

F. D. Chatterton, Ass't. Supt.
Fitzgerald Public Schools
23200 Ryan Road
Warren, Michigan

Burton K. Thorn
College of Education
Michigan State University
East Lansing, Michigan

Raymond Hill, Ass't. Supt.
Owosso Public Schools
Owosso, Michigan

NORTH CENTRAL ASSOCIATION--U.S. OFFICE OF EDUCATION
PILOT CONFERENCE ON THE USES OF TELEVISION IN EDUCATION

November 12, 13, 14, 1960

INVITATION AND REGISTRATION LIST

Erling S. Jorgensen
Northwest Association of
Secondary and Higher Schools
Montana State University
Missoula, Montana

Mitchell P. Briggs
Western College Association
Fresno State College
Fresno, California

Albert J. Geiger
Southern Association of Colleges
and Secondary Schools
Suite 592, 795 Peachtree St., N. E.
Atlanta 8, Georgia

W. Howard Niblock
New England Association of Colleges
and Secondary Schools
Winchester High School
Winchester, Massachusetts

Gene D. Gisburne,
Middle States Association of
Colleges and Secondary Schools
University of Pennsylvania
Philadelphia 4, Pennsylvania

J. Fred Murphy
North Central Association of
Secondary Schools and Colleges
Broad Ripple High School
Indianapolis, Indiana

Indiana

Robert Holmes
Coordinator of Secondary Curriculum
New Albany Public Schools
New Albany, Indiana

Otto Hughes, Ass't. Chairman
Indiana State Committee, NCA
Director of University Schools
Indiana University
Bloomington, Indiana

Mendel Sherman
Audio-Visual Center
Indiana University
Bloomington, Indiana

James Miles, Director
Radio and Television
Purdue University
Lafayette, Indiana

Hubert Scott, Ass't. Supt.
Evansville School Corp.
200 N. W. Seventh Street
Evansville 8, Indiana

Michigan

Carroll Munshaw
Wayne State University
Detroit, Michigan

Ruth E. Hartke
Elementary Education Coord.
Dearborn Public Schools
Dearborn, Michigan

Irvin G. Wolf, Principal
Denby High School
Detroit, Michigan

P. D. Chatterton, Ass't. Supt.
Fitzgerald Public Schools
23200 Ryan Road
Warren, Michigan

Burton K. Thorn
College of Education
Michigan State University
East Lansing, Michigan

Raymond Hill, Ass't. Supt.
Owosso Public Schools
Owosso, Michigan

West Virginia

Clarence A. Brock
State Dept. of Education
Charleston 5, West Virginia

Harry M. Brawley, Director
Public Affairs
Morris Harvey College
Charleston, West Virginia

Stephen D. Buell, Director
Educational Radio-TV
Marshall College
Huntington, West Virginia

Oran B. Farren, Principal
St. Marys High School
St. Marys, West Virginia

Miss Virginia Kelly, Director
Audio-Visual Education
Kanawha County Schools
Charleston, West Virginia

Constance Sams, Chairman
Journalism Department
Parkersburg High School
Parkersburg, West Virginia

Ohio

Harold J. Bowers, Ass't. Supt.
Public Instruction
Department of Education
Columbus 15, Ohio

Clyde K. Miller, Director
Division of Audio-Visual Education
360 North Front Street
Columbus 15, Ohio

Robert Powell
Newark Public Schools
Newark, Ohio

James Jacobs
Division of Instruction Evaluation
Cincinnati, Ohio

Lester Huber, Director
Secondary Education
Columbus Public Schools
270 East State Street
Columbus 15, Ohio

Ross Mooney
College of Education
Ohio State University
Columbus 10, Ohio

I. Keith Tyler (Alternate)
Telecommunications Center
Ohio State University
Columbus 10, Ohio

Arizona

R. A. Crowell
High School Visitor
Tucson, Arizona

Elbert D. Brooks, Prin.
Pueblo High School
3500 South 12th Avenue
Tucson, Arizona

Arkansas

John Fortenberry
Director of Instruction
Jonesboro Schools
Jonesboro, Arkansas

Harold E. Smith, Prin.
El Dorado High School
El Dorado, Arkansas

Colorado

Everett U. Samuelson
College of Education
University of Colorado
Boulder, Colorado

Stephen Romine
School of Education
University of Colorado
Boulder, Colorado

Gerald F. Caduff
Electronics Department
Pueblo College
Pueblo, Colorado

Illinois

Donald W. Dunnan, Supt.
Springfield Public School
301 West Adams Street
Springfield, Illinois

Clifford G. Erickson
Dean of TV Instruction
Chicago City Junior College
3400 N. Austin Avenue
Chicago 34, Illinois

Iowa

J. E. McAdam
Professor of Education
State University of Iowa
Iowa City, Iowa

Elaine Merkeley, Director
Educational Television
Des Moines Public Schools
1800 Grand Avenue
Des Moines 14, Iowa

Kansas

L. R. Simpson, Director
Elementary & Secondary School
Accreditation
Topeka, Kansas

U. H. Budd, Prin.
Senior High School
Wellington, Kansas

Missouri

C. Benton Manley
Springfield Public Schools
940 North Jefferson
Springfield, Missouri

H. W. Schooling
Superintendent of Schools
Webster Groves 19, Missouri

Minnesota

Elmer M. Weltzin, Director
Graded Elementary & Secondary Schools
St. Paul Minnesota

Robert J. Keller, Director
University High School
University of Minnesota
Minneapolis, Minnesota

Nebraska

Floyd A. Miller, Ass't. Com.
State Department of Education
Lincoln, Nebraska

Jack McBride, Director
Station KUON-TV
Lincoln, Nebraska

North Dakota

T. E. Simle
Superintendent of Schools
Bismarck, North Dakota

T. W. Thordarson, Director
Division of Supervised Study
State College Station
Fargo, North Dakota

New Mexico

Calloway Taulbee
Box 999
Santa Fe, New Mexico

Claude Hempen
514 Charleston, N. E.
Albuquerque, New Mexico

Oklahoma

Jake Smart, Director of Instr.
State Department of Education
Oklahoma City, Oklahoma

Clell C. Warriner, Prin.
Okmulgee High School
Okmulgee, Oklahoma

South Dakota

F. R. Wanek, Secondary School Supr.
St. Department of Public Inst.
Pierre, South Dakota

Ben O. Rossow, Prin.
Washington Senior High School
Sioux Falls, South Dakota

Wyoming

Louis R. Kilzer
Professor of Secondary Education
University of Wyoming
Laramie, Wyoming

Clyde W. Kurtz, Supt.
School District Number One
Park County
Powell, Wyoming

Wisconsin

H. Clifton Hutchins
Department of Education
University of Wisconsin
Madison 6, Wisconsin

Harold B. McCarty
Director, Radio-TV Education
University of Wisconsin
Madison, Wisconsin

Organizations

Mr. Lee Campion
DAVI
8402 Donnybrook Drive
Chevy Chase 15, Maryland

Dorothy Smith
American Council on Education
1785 Massachusetts Ave., N. W.
Washington, D. C.

William G. Harley
NAEB
1346 Connecticut Ave., N. W.
Washington, D. C.

John White
NETRC
10 Columbus Circle
New York, New York

Paul Klohr
ASCD
College of Education, OSU
Columbus, Ohio

NCA Officers, Speakers and Consultants

Donald Emery, Supt.
Shaker Heights Public Schools
Shaker Heights, Ohio

Robert Fleming, Prin.
South High School
Youngstown, Ohio

Clyde Vroman
Director of Admissions
University of Michigan
Ann Arbor, Michigan

Robert Keller, Director
University School
University of Minnesota
Minneapolis, Minnesota

Thomas C. Pollock, Dean
Washington Square College
New York University
New York 3, New York

Charles Hettinger, Supr. of TV and
Radio Education
The Board of Public Education
Bellefield Avenue at Forbes
Pittsburgh 13, Pennsylvania

Philip R. Pitruzzello
Graduate School of Education
University of Chicago
5835 Kimbark Avenue
Chicago 37, Illinois

Paul C. Garrison
Superintendent of Schools
Richmond, Indiana

Kenneth E. Oberholtzer
Superintendent of Schools
414 Fourteenth Street
Denver 2, Colorado

Helen Seel
Cincinnati Public Schools
608 E. McMillan Street
Cincinnati, Ohio

Egon Guba
Coordinator of Research
College of Education
Ohio State University
Columbus, Ohio

I. Keith Tyler, Director
Communications Seminars & Workshops
Telecommunications Center
O.S.U.
Columbus, Ohio

W. H. Ewing
OSU-MPATI Area Coordinator
Telecommunications Center
O.S.U.
Columbus, Ohio

R. B. Thompson, Executive Dean
Office of Special Services
Ohio State University
Columbus, Ohio

Observers

Seth Spaulding
Office of Education
Department of Health, Education
and Welfare
Washington, D. C.

Chalmer Hixson, Field Associate
OSU-MPATI Resource Center
Ohio State University
Columbus, Ohio

Robert Fuzy
Supr. of Instructional TV
WOSU-TV
Ohio State University
Columbus, Ohio

David Ayers, Manager
Program & Production
WOSU-TV
Ohio State University
Columbus, Ohio

Jackson Riddle
Office of Instruction & Research
Ohio State University
Columbus, Ohio

Staff

Richard B. Hull, Chairman
NCA-TV Subcommittee
Telecommunications Center
O.S.U.
Columbus, Ohio

David Parker, Coordinator
WOSU-TV
Ohio State University
Columbus, Ohio

Martha Haueisen
WOSU-TV
Ohio State University
Columbus, Ohio

Bette Wallach
Office of Seminars & Workshops
Ohio State University
Columbus, Ohio

APPENDIX C.

STATUS REPORT ON ETV

STATUS REPORT OF EDUCATIONALLY-OWNED TELEVISION STATIONS* IN THE NORTH CENTRAL STATES AREA

(On the Air, Planned, or Under Construction)

STATE	ETV STATION	STATION PLANNED OR UNDER CONSTRUCTION	STATE NETWORK PLANNED
ARIZONA	KUAT (6) Arizona University		
ARKANSAS	None	None	
COLORADO	KRMA-TV (6) Denver Public Schools		
ILLINOIS	WTTW (11) Chicago	WSIU-TV (8) Southern Illinois U.	State Network
	WILL-TV (12) Illinois University		
INDIANA	M.P.A.T.I. Purdue University	Yes Purdue University	
	WNDU-TV (16) Notre Dame University		
IOWA	WOI-TV (5) Iowa State University		
	KDPS-TV (11) Des Moines Pub.Schools		
KANSAS		KFKU-TV (11) University of Kansas	State Network
		KSAC-TV (8) Kansas State University	
		KCSD-TV (19) Kansas Public Schools Central St.	
MICHIGAN	WTVS (56) Detroit ETV Fnd.		State Network
	WMSB (10) Michigan State U.		
MINNESOTA	KTCA-TV (2) Twin City ETV Corp.	Duluth ETV	State Network
MISSOURI	KOMU-TV (8) Missouri University	Jefferson Pub. Schools Jefferson	
	KETC (9) St. Louis ETV Com.		

* Complete closed circuit list not available.

STATE	ETV STATION	STATION PLANNED OR UNDER CONSTRUCTION	STATE NETWORK PLANNED
NEBRASKA	KUON-TV (12) Nebraska University		
NEW MEXICO	KNME-TV University of N. Mexico		
NORTH DAKOTA	None		
OHIO	WCET (48) Cincinnati ETV Fnd.	Miami Valley TV Dayton	State Network
	WOSU-TV (34) Ohio State University	Cleveland ETV Cleveland	
	WMUB-TV (14) Miami University	Ohio University Athens	
	WGTE-TV (30) Toledo ETV Fnd.	Newark Pub. Schools Newark	
		Kent State University Kent-Akron	
		Bowling Green St. U. Bowling Green	
OKLAHOMA	KETA (13) Oklahoma City ETV Author.		State Network (now in operation)
	KOKH-TV Okla. City Pub. Schools		
	KOED-TV Tulsa, Okla. ETV Author.		
WEST VIRGINIA	None	None	
SOUTH DAKOTA		KUSD-TV (2) Univ. of S. Dakota	
WISCONSIN	WBAY-TV (2) St. Norbert College		
	WHA-TV (21) Wisconsin University		
	WMVS-TV (10) Milwaukee		
WYOMING	None	None	
	25 ETV Stations	14 Planned	4 State Networks Planned 1 In Operation

APPENDIX D.

CONFERENCE PAPERS AND REPORTS

A PILOT CONFERENCE ON THE DISSEMINATION OF PRINCIPLES AND PRACTICES IN THE USES OF TELEVISION IN EDUCATION

Conducted by
The Subcommittee on Television
of the
Commission on Research and Service
North Central Association of
Secondary Schools and Colleges

November 12-13-14, 1960

Columbus, Ohio
The Ohio State University

under contract with
The United States Office of Education

SATURDAY, NOV. 12

Introductory Session
I. Keith Tyler, Presiding

8:00-8:45 a.m.	Registration, Olentangy Inn Lobby	
8:45-9:00 a.m.	"Background of the NCA" J. Fred Murphy, Vice President North Central Association	Room B
9:00-9:45 a.m.	"ETV History" Richard B. Hull, Chairman NCA Subcommittee on Television	Room B
9:45-10:00 a.m.	Buses will be available to transport participants and guests of the conference to the O.S.U. Dentistry Building.	
10:00-10:30 a.m.	Conducted Tour of the Dentistry Closed Circuit Installation	
10:30-10:50 a.m.	"The Population Explosion—Its Effects on Education" Ronald B. Thompson, Executive Dean Office of Special Services, O.S.U.	Room 110
10:50-11:20 a.m.	Case Study—ETV in the College and Junior College Glenn Starlin, Director, Inter-Institutional TV Teaching, University of Oregon	Room 110
11:20-11:30 a.m.	Questions	
11:30-12:00 noon	Case Study—ETV in the Elementary and Secondary Schools Charles Hettinger, Supervisor of Television and Radio Education, Pittsburgh Public Schools	Room 110
12:00-12:10 p.m.	Questions	
12:10-12:15 p.m.	Summary I. Keith Tyler, Director	
12:15-12:30 p.m.	Buses will transport participants and guests to the Jai Lai restaurant for lunch.	

Luncheon Session
Robert Fleming, Presiding

12:30-2:00 p.m.	Lunch "NCA Seminar Report—Its Ten Conclusions" J. Fred Murphy	Jai Lai
2:00-2:15 p.m.	Buses will transport participants and guests to WOSU-TV.	

Afternoon Session
Richard B. Hull, Presiding

2:15-3:15 p.m.	Conducted tour of the WOSU-TV Building and facilities David Ayers, Manager, Program and Production	
3:15-3:30 p.m.	Regional Projects in Instructional Television—Greater Columbus Area ETV Project, Airborne TV, etc. William H. Ewing, Coordinator, OSU-MPATI Resource Center	WOSU-TV Studio
3:30-4:15 p.m.	Demonstration—Production of TV Lesson Robert Fury, Supervisor of Instructional Television, WOSU-TV Mrs. Bonnie Gilliom, TV Teacher Columbus Public Schools	WOSU-TV Studio
4:15-5:00 p.m.	Demonstration—TV Classroom Utilization Mr. Dan Spivey, Classroom Teacher Columbus Public Schools	WOSU-TV Studio
5:00 p.m.	Buses will transport participants and guests to the Olentangy Inn.	
7:30-9:30 p.m.	Selected instructional films and video tapes will be shown—schedule to be announced.	Room 7-8, Room B

SUNDAY, NOV. 13

Morning Session
I. Keith Tyler, Presiding

The small dining room will be reserved for NCA participants and guests between the hours of 7:30 and 9:00 a.m. for an informal breakfast.

9:00-9:30 a.m.	"New Patterns and New Media for Education" Thomas Clark Pollock, Dean College of Arts and Science, New York U.	Room B
9:30-11:00 a.m.	Problems of the School Administrator Using Educational Television: (a) Scheduling; (b) Planning; (c) Financing; (d) Utilization. (a) Paul C. Garrison, Superintendent of Schools, Richmond, Indiana (b) Philip R. Pitruzello, Staff Associate School Improvement Program, Graduate School of Education, Chicago (c) Kenneth Oberholtzer, Superintendent, Denver Public Schools (d) Miss Helen Seel, Department of Radio-TV Cincinnati Public Schools	Room B
11:00-11:15 a.m.	Coffee Break	

1:15-11:45 a.m.	"Ten Years of Research in Instructional TV" Egon Guba, Coordinator of Research, College of Education, OSU	Room B
1:45-12:15 p.m.	"The Teacher's College: Research in Closed Circuit TV" Robert Keller, Director, University High School, University of Minnesota	Room B

Luncheon Session

Lawrence McKune, Presiding

2:30-1:30 p.m.	Lunch	Room A
1:45-2:15 p.m.	"ETV Dissemination Problems in 19 NCA States—The Task of the Conference." Clyde Vroman, Chairman, Commission on Research and Service, NCA	Room A
2:30 p.m.	Simultaneous Team Conferences on Four Sample State Areas (Ohio, Michigan, Indiana, West Virginia)	Rooms to be Announced
8:00-9:00 p.m.	Reports of Teams: State and Regional ETV Plans and Recommendations	Room B

MONDAY, NOV. 14

Richard B. Hull, Presiding

The small dining room will be reserved for NCA participants and guests for breakfast service between 7:30 and 9:00 a.m.

8:00-8:50 a.m.	Reviewing Committee Only: Consideration of Team Reports	Room B
9:00-9:40 a.m.	Group Consideration of Team Reports	Room B
9:40-10:00 a.m.	Report of Reviewing Committee	Room B
9:00-11:30 a.m.	Report of the Conference: Formulation of Recommendations, Preliminary Approval Donald C. Emery, Supt. Shaker Heights Public Schools Cleveland, Ohio	Room B
2:00-1:30 p.m.	Lunch	Room A
1:45-2:15 p.m.	Conference Report: Presented for Approval	Room A
2:15 p.m.	Adjourn	

INSTRUCTIONAL TV PROGRAMS

Selected examples on video tape and film for screening at the NCA-USOE Conference on Uses of Television in Education

BIOLOGY

A ninth grade biology course produced by the Cincinnati Public Schools and WCET.

ESSENTIALS OF FREEDOM

A college-level discussion of major political science issues produced by Kenyon College and The Ohio State University Telecommunications Center.

Winner of the Freedom's Foundation at Valley Forge TV Award.

FRENCH FOR FUN

An elementary conversational language course produced by the Columbus, Grandview, Upper Arlington and Bexley Public Schools, and the Ohio State University Telecommunications Center.

HEALTH EDUCATION 400

A freshman college course on mental and physical health produced by the OSU Physical Education Department and WOSU-TV.

LANGUAGE AND LINGUISTICS

A high school and college level course produced by the University of Buffalo and distributed through the National Educational Television and Radio Center.

MR. LINCOLN

A supplementary high school history series (165 five-minute segments) produced by WOSU-TV in cooperation with the Franklin County Historical Society, the Columbus Public Library, and Broadcast Music, Inc.

SCIENCE FOR NINTH

A ninth grade junior high school science series, produced by the Columbus Public Schools in cooperation with The Ohio State University Telecommunications Center.

TWO FOR PHYSICS

A college level introductory physics course produced by the University of Toronto and the Canadian Broadcasting Corporation and distributed through the National Educational Television and Radio Center.

TWENTIETH CENTURY REVOLUTIONS

A college level contemporary history course, produced by the New York Foreign Policy Association and KRMA, Denver, and distributed through the National Educational Television and Radio Center.

TO SPEAK WITH FRIENDS

A special report on language education in the elementary schools produced by the Boston Public School System and WGBH-TV and distributed through the National Educational Television and Radio Center.

VISITS WITH A SCULPTOR

A senior high art appreciation course produced by the University of Southern California and distributed through the National Educational Television and Radio Center.

YOUNG AUDIENCES

An elementary music appreciation course, produced by the New York State Department of Education and WCBS-TV, and distributed through the National Educational Television and Radio Center.

TV AND FILM SCHEDULE

Room 8		Room 7-8	
7:30	To Speak With Friends (Elementary Language)	7:30	Young Audiences (Elementary Music)
7:58	Mr. Lincoln #39 (Supplementary)		
8:02	Science for Ninth (VTR)	8:02	Two for Physics (College Physics)
8:27	Mr. Lincoln #40		
8:31	French for Fun (VTR) (Elementary)	8:31	Twentieth Century Revolutions (Political Sci.--H.S., Coll.)
8:45	Mr. Lincoln #41		
8:50	Health Education (VTR) (College)		
9:15	Biology (Junior High)	9:15	Language and Linguistics (High School Supplementary)

Pilot Conference on the Uses of Television in Education
North Central Association
ASSIGNMENTS FOR AUGMENTED STATE TEAMS

1. Conference personnel is divided into four groups on the basis of the four states constituting the pilot demonstration: Indiana, Michigan, Ohio and West Virginia.

2. Each state is assigned the following Consultants:

Indiana

William G. Harley
Paul C. Garrison
Dorothy Smith
Erling Jorgensen

Michigan

Thomas Pollock
Helen Seal
H. B. McCarty

Ohio

Glenn Starlin
Egon Guba
Philip Pitruzzello
Robert Keller

West Virginia

Charles Hettinger
William Ewing
Lee Campion
Jack McBride

3. Remaining state delegations are arbitrarily divided among the states as follows:

Indiana

Arkansas
Kansas
Illinois
Iowa

Michigan

Colorado
Missouri
New Mexico
Wyoming

Ohio

Minnesota
Oklahoma
Wisconsin

West Virginia

Arizona
Nebraska
North Dakota
South Dakota

NCA officials and other speakers and consultants may join any groups they may wish.

4. Organize each team by selecting a chairman and a recorder: recorder to prepare written report to be given Sunday evening and to be duplicated for use Monday morning. Total report not to exceed three (3) pages, single spaced.

5. **Briefly summarize the status of ETV in your state; educational stations, closed-circuit operations, use in individual colleges and universities, use in local schools or school systems, regional developments and any plans for regional or state networks.**

6. **Summarize group's reactions to document, "The Uses of Television in Education," as basis for possible revision for later printing and distribution.**

7. **Develop plans for dissemination conferences and other dissemination activities on state or regional basis.**

   (a) **To what extent does this pilot conference serve as a model and/or how should it be modified?**

   (b) **How would the proposed conference plans relate to and make use of the eleven recommendations of the Subcommittee report?**

REPORT OF THE INDIANA TEAM

In the four states represented within our group the use of educational television was fairly widespread in Iowa and Indiana and limited in Arkansas and Kansas. The state of Arkansas has only a few examples of minor use, but two Arkansas representatives were seeking information and looking toward the establishment of closed circuit installations in their two widely separated districts. The state of Kansas has just recently released a report entitled "The Feasibility of an Educational Television Network for the State of Kansas." The report was prepared for and at the direction of the Commission on Education of the Legislative Council of the State of Kansas. The report reviewed how the state could be covered by such an educational network at the cost of $6,700,000. Very little is being done now by individual districts in Kansas.

The State of Iowa has more extensive projects underway, the Des Moines-Polk County project being the most extensive. Both elementary and secondary programs are offered there on open circuit. The Iowa representative reported satisfaction with the results to date concerning the use of large-group instruction. The Des Moines-Polk County project is part of the Ford national program.

The state of Indiana has two major projects in the Ford program. The Southwestern Council in the Evansville area operates five hours a day on a commercial station and its programs are received in Indiana, Illinois and Kentucky.

The other project involves two counties, Floyd and Clark, which are associated with the Kentuckiana Project. This project is made up in the main by schools in Jefferson County Kentucky. The secondary programs are on a school-leased UHF station and the elementary programs operate on both the UHF and a closed circuit system.

Indiana University has a closed-circuit set-up in the laboratory school used for teacher education. Purdue University also does television instruction and is involved in the MPATI. The main offices for the Midwest Program for Televised Instruction are on the Purdue Campus. The Midwest Program is currently engaged in much of the work being done with groups concerning the use of ETV in the state of Indiana to which this report will refer later.

One of the six area coordinators of the MPATI program pointed out that the two land ETV stations in Indiana would not be replaced by the MPATI. Rather, they can supplement what is being done by the Midwest Program by offering additional subjects or if they might be doing a better job than the Midwest Program in the same subject, they would continue with it.

The group participants felt that the revised "Uses of Television in Education" represents a broad invitation to NCA schools to experiment. The recommendations offer challenges to small schools and large schools, and are such that they could be translated in state meetings into terms to fit each local school.

It was pointed out, however, that some areas in the report need clarification. For instance, some felt the statement on page 4 concerning learning in TV classes being as good where television is used as in conventional classrooms does not really indicate any necessity for ETV. Too, the statement about small schools investigating the use of ETV to supplement their curriculum leads to the problem of accreditation. Should TV teachers be accredited by state and the NCA?

This conference, while a very valuable resource, may not be a model. The presentation of objective, unbiased reports have made this conference an excellent resource for the participants. These reports can be drawn upon as resources but the reports would not be used in their entirety at our meetings back home.

The time and money limitations would negate in most cases the opportunity to model a meeting such as this. The more localized the meetings become the more pressing the factors of time and money become. Even at state levels, financial aid would possibly be necessary.

As reported earlier the MPATI is doing much work in the ETV field. In Indiana, I.U. in cooperation with MPATI and the State Department of Public Instruction, have arranged local meetings. Perhaps if NCA were to set up separate meetings it would duplicate much that is already done. It is suggested that at such activities in the State of Indiana as the summer workshops now being planned by the MPATI coordinators that groups such as NCA, ASCD, MPATI, the land based ETV stations join forces. It is, therefore thought that the state NCA leaders should immediately meet with other interested groups to cooperate and avoid duplication of effort.

Otto Hughes, Chairman
Robert Holmes, Recorder

REPORT OF THE MICHIGAN PILOT TEAM

1. Status of ETV in Michigan:

   a. A working committee on ETV appointed by, and advisory to, the superintendent of public instruction has been in existence for approximately two years.

   b. Although the superintendent of public instruction has full authority under Michigan statutes for "general supervision of general instruction in all public schools," major responsibility for instruction has in fact been delegated to the local district board and its professional staff for many years.

   c. This long tradition of local autonomy in Michigan motivates unusual reservations on the part of many concerning superimposed programming.

   d. One device long used in Michigan to promote curriculum improvement is the several sub-committees of the Curriculum Planning Committee. Approximately 1,000 teachers, administrators and laymen are involved in this operation. One of these subcommittees has prepared a working paper (not yet official) on ETV. The report raises questions about present uses of ETV but takes a strong positive approach to aspects of ETV that do not usurp initiative of the local school district and the teacher.

   e. Most of the state universities and the Detroit ETV Foundation are active in telecasting.

2. The group took formal action to endorse "The Uses of Television in Education" and recommended wise and careful use of the document.

3. It was recommended that the state NCA committee assume responsibility for sponsoring state and regional conferences within the state. It was proposed that consideration be given to a state conference on ETV to which would be invited key persons representative of various organizations whose major forms of interest is education, i.e., superintendents, principals, directors and supervisors of instruction, teachers, school board members, university personnel, etc. The purposes of this conference would be: (1) to provide an opportunity for participants to (a) discuss the major issues, (b) become acquainted with the present status of ETV programming and the research results to date, and (c) to consider future possibilities in ETV; (2) to stimulate and motivate leaders to include consideration of ETV in the programs of their organizations; and (3) to provide leaders for regional conferences on ETV within the state.

   It was proposed that the state conference for leaders be followed by regional conferences in the service areas of the several universities engaged in ETV programming.

   The conferences should include objective reporting on research results and ample provision for discussion by the participants. If samples of ETV programs are used, these should be selected with utmost care.

4. It was recommended that this conference go on record to urge NCA to officially request funds which would be made available for conferences on a state and regional (multi-state) basis for the purpose of disseminating information, increasing understanding and providing opportunity for the discussion of critical issues in ETV.

Other states represented: Colorado, Missouri, New Mexico, Wyoming.

Irving Wolf, Chairman
Ruth Hartke, Recorder
Burton Thorn, Reporter

REPORT OF THE OHIO PILOT TEAM

The group began its job by selecting Mr. Huber as chairman and Mr. Jacobs as recorder. Basically, the group addressed itself to six questions as follows:

1. What is the status of ETV in Ohio?

While the group found itself somewhat informed on the process and location of ETV facilities in the state, we felt more comprehensive information was needed. The information available within the group pointed to some universities which presently are engaged in television instruction through local stations: Miami U., Ohio State operate ETV stations while Western Reserve and the U. of Dayton have commercial stations. Several other colleges and universities are involved to the extent of viewing Continental Classroom. Some schools such as Kent State have purchased television equipment and will be entering actively into ETV work shortly. To the group's knowledge only two public school areas are currently involved in using ETV: Cincinnati and Columbus. Newark is on the verge of ETV utilization as is the University of Toledo, Kent State and Ohio Wesleyan.

The Ohio Legislature has set up a Governor's Commission to study a statewide network of ETV. This commission has recommended that approximately twenty stations would be involved for statewide coverage.

It was recommended that the Ohio NCA Subcommittee on TV determine the extent of ETV facilities and utilization in Ohio. This study would include a survey of all schools, not only NCA schools and would obtain such information as who is actually using ETV with their own facilities; who utilizes Continental Classroom; closed circuit TV; who plans on using MPATI and who plans on using ETV in the near future. It was suggested that this pertinent information could be obtained from the Ohio Council on Educational Television or by surveying the schools directly.

2. To whom should ETV information be disseminated?

It was generally agreed that the top school administrators are the key people since without their sanction further effort is futile. In addition to the superintendent or college official, it was suggested that information be disseminated to principals, curriculum directors and A-V directors.

3. How should information on ETV be disseminated?

Three alternatives on this subject were suggested, i.e., in the form of regional meetings, state meetings and within the framework of meetings of other established organizations. In the case of regional meetings, key people within a region which might correspond to OEA regions, plus other personnel mentioned above would meet along with an NCA representative. At the state meeting level, only key community personnel, typically the superintendent or college official, would attend. The third alternative was that of setting up special meetings of established organizations such as Ohio AASA, ASCD and the Association of Secondary School Principals. It was suggested that while one of these three alternatives could be selected, it might prove more fruitful to synthesize these approaches. It was thought particularly desirable to precede regional meetings by a statewide orientation meeting of key regional personnel.

It was deemed highly desirable to demonstrate the effectiveness of ETV by showing what it can do. To this end, television manufacturers might prove valuable in showing their equipment and give demonstrations at the regional level. If state meetings are held, the type of tour presented by WOSU-TV would be highly desirable.

4. What information should be disseminated?

Communities should be made aware of the implications of rising population to education. With such background information a systematic report on the implementation and use of ETV should be made. In general this would include the information given in the report, "The Uses of Television in Education." As such it would include information on costs, facilities, production, utilization, scheduling, personnel, research findings, etc. The various possibilities of acquiring ETV service would be presented such as the possibility of a local station, either ETV, commercial or closed circuit. The possibility of an ETV network operated by several communities should be pointed out together with possible MPATI participation.

It was suggested further that interested communities or organizations might be given lists of available ETV specialists in their geographic area to whom they could turn for more sustained help. Finally, it was recommended that this pilot conference could well serve as a model for the type of information most cogently needed.

5. To what extent should the NCA assume leadership advancing the cause of ETV?

It was recommended that the NCA act only as a catalytic agent by disseminating information on ETV. Service extending beyond this might be given over to other organizations if it seems appropriate to do so. The extent to which NCA has reached its goal of providing pertinent information regarding ETV should be evaluated.

6. What are the reactions to the report, "The Uses of Television in Education."

In view of the highly favorable reaction to this report, no recommendation for change was made. It was felt highly desirable that the story told by this report be translated into a film or other audio-visual method of communication. In the latter form, the document could be used at various meetings for the purpose of imparting the necessary information. It was thought also that the report in its present form could be illustrated for further effectiveness.

Lester Huber, Chairman
James Jacobs, Recorder

REPORT OF THE WEST VIRGINIA PILOT TEAM

There are no educational television stations in West Virginia; however, commercial stations are used for the small number of programs that have been presented by individual colleges and local schools.

The only closed circuit operations that can be found within the state are located in the newly-constructed West Virginia University Medical Center.

It is obvious, then, that West Virginia has made no statewide coordinated effort in the field of educational television. At present, we have no plans for regional developments, nor do we have plans for regional or state networks.

The West Virginia Pilot Team recommends that the highlights of the NCA report, "The Uses of Television in Education," be printed and distributed to all North Central colleges and secondary schools throughout the state. We believe this is necessary because an informed professional group will be needed to further the plans.

In West Virginia we propose to proceed as follows:

1. Use the approaching West Virginia Centennial as a point of entry. In 1963 the state's 100th birthday will be celebrated. A Centennial Commission has already been created, with appropriations, by the state legislature.

2. Call a statewide conference of selected representatives of civic and professional organizations who are interested in the educational television activity of the centennial and in longer range aspects of educational broadcasting.

3. It is anticipated that this conference would ask the state legislature to create an educational broadcasting authority which would have as one of its aims the furthering of the centennial.

4. The authority would then undertake the program in a step-by-step development, looking toward the establishment of educational radio and television stations.

In conclusion:

> The West Virginia North Central Committee, having been represented at this conference and drawing upon the experience gained here, plans to adapt the practical parts of the conference program to the needs of the state of West Virginia.

The six-member team present at this conference shall act in an advisory capacity.

Clarence Brock, Chairman
Constance Sams, Recorder

APPENDIX E.

TRANSCRIPT OF CONFERENCE SPEECHES

BACKGROUND OF THE NCA

J. Fred Murphy
Vice President
North Central Association

The North Central Association is made up of three commissions: one on higher education, one on secondary education, and the commission on research and service.

The Research and Service Commission has some fourteen functioning committees. The committee on television has been functioning for the past seven and a half years.

Through annual meetings and reports came an interest expressed by college and high school representatives that the NCA appoint a committee to study the uses of television in education. The committee was formed, and initially surveyed all the available literature in the field. Findings on the status of education in television were distributed, but the need for information grew.

Two years ago, officials of the North Central Association applied for a grant under Title VII of the National Defense Act for the purpose of holding a seminar on television and education. From over two thousand requests reviewed by the National Advisory Committee, the U.S. Office of Education selected the NCA program as one of the recipients of grants.

The grant resulted in the 1959 Seminar on the Uses of Television in Education, held in Chicago. Its participants included a cross-section of representatives of secondary and higher education, professional organizations, and those active in educational television.

As a result of the seminar and the interest displayed in the report resulting from it, we applied for another grant to disseminate the principles arising from the Chicago conference throughout the 19 NCA states.

The grant was obtained for the present "pilot conference." Its main objective is that you are stimulated to come to conclusions in this area, that you may take something back to the area of your responsibilities, set up similiar conferences, and promote further understanding and action.

That's why we are here. For nearly eight years we have been working on it. It didn't just happen. Thank you.

ETV HISTORY

Richard B. Hull, Chairman
NCA Subcommittee on Television

In 1952, the Federal Communications Commission established a new kind of broadcasting enterprise, the non-commercial educational television station, and ultimately reserved 259 television channels (87 VHF, 172 UHF) for the exlusive use of schools, educational corporations, colleges, and universities. While WOI-TV at Iowa State University in 1950 was the first educationally-owned television station to go on the air, it was licensed as a commercial station under the old FCC category. The first educational non-commercial station in the new FCC classification was KUHT at the University of Houston which began operation in 1953.

By February, 1961 the FCC recorded a total of 59 educationally-owned television stations with an estimated 12 to 14 more scheduled to begin operation during the year. Fifty-four of the stationsfell into the non-commercial educational category while five were commercially licensed.[1]

College and university	17
City and/or county public schools	9
State board of education	3
State Commissions or authorities	6
Non-profit community corporations	19

Each week these stations are providing more than 2,000 hours of program service which included systematic and supplementary instruction for credit in the schools and on the campus together with unique educational, cultural and informational materials for adults and out-of-school children. Potential audience within the coverage area of these stations totals 26,000,000.

Since 1952, thirty-two states have enacted legislation and appropriated funds designed to encourage or actually enable the use of television in education. Seven states have passed legislation making it possible for schools to spend money for use of and participation in educational television. Four states (Alabama, Florida, North Carolina, and Oklahoma) are operating eudcational television networks. Six states (Georgia, Kansas, Ohio, Oregon, Maine, South Carolina) have planned or are in the process of developing statewide networks. Plans for a five-state network (Massachusetts, Maine, New Hampshire, New York, Pennsylvania). A six-state Mid-West network (Iowa, Minnesota, Nebraska, North Dakota, South Dakota, Wisconsin, and a thirteen-state network under the auspicies of the Southern Regional Education Board have been drafted.

More than 400 educational closed circuit television installations are in regular instructional use by schools, colleges, universities, and the armed services. Some installations are multiple-channel operations covering an entire campus or county area. In 1960 at least 1000 school districts and more than 350 institutions of higher education used television in some form as an instrument of instruction.

Three national agencies have as a major or total concern, service to the developing educational television movement. The 35-uear old National Association of Educational Broadcasters (Washington, D.C.), representing 800 institutional and individual members, including most of the educational television stations, was the progenitor of the other two agencies. The Joint Council on Educational Broadcasting (Washington, D. C.) in 1951, which secured the educational channel reservations, and the National Educational Television and Radio Center (New York in 1952) which is the national program network service for the stations with a comprehensive program distribution from its video tape and film center at Ann Arbor, Michigan. Programs are primarily directed at out-of-school children and adults. No national educational distribution service for in-school or on campus credit courses has been developed.

---

[1] The five educationally-owned but commercially operated stations were owned by Iowa State University, Loyola (New Orleans) University, University of Missouri, Notre Dame University, and St. Norbert's College.

Latest development on the educational television scene is the Midwest Project for Airborne Television Instruction with headquarters at Purdue University. An experimental venture, jointly sponsored by industry and foundation funds (including the Ford Foundation, Westinghouse Corporation, CBS Laboratories), MPATI in early 1961 will begin transmission from a DC-6 airplane, circling over Montpelier, Indiana. Two airborne UHF channel will transmit course materials for all grade levels to portions of a six-state area, embracing Indiana, Illinois, Kentucky, Michigan, Ohio, and Wisconsin.

In 1951 when the JCET sought reservation of television channels for education, the "educational television movement" was thought of primarily as a program service for adults and out-of-school children which incidentally might provide enrichment materials for school, college, and university classrooms. This concept reflected the thinking, not only of the more than 100 educational radio stations then in existence, but of the Fund for Adult Education, an independent organization established by the Ford Foundation, whose early and continuing financial assistance made the development of educational television in the U. S. possible. In 1955 partly as a result of successful experimentation in direct and total instruction by television over community station WQED in Pittsburgh, financed by another Ford Foundation entity, the Fund for Advancement of Education, great sums of money were spent by this agency in the formal instructional as opposed to the general educational and cultural uses of television. For a time there seemed to be two "educational television movements" which sometimes opposed one another. General concensus now: they are differing but equally important and complementary aspects of a new development on the American scene which Dr. George Stoddard, executive vice-president of New York University describes, "Not as a supplement (alone) to existing institutions, but a new social institution in itself."

Educational television's development began just as American education began to face the "educational crisis," the new complex of problems and challenges brought about by the population explosion, a predicitable continuing shortage of able teachers, and new quality needs in education, dramatized by "Sputnik." Television has been described as the most important new educational tool devised since the invention of moveable type. Like any device--textbook, blackboard, film projector--television can be used wisely and imaginatively or poorly in the purposes of education. With its unique ability to multiply educational resources, an increasing number of educators believe television can play a major role in the quality-quanity problems which American education faces.

During its 10-year history the fact has been well established that educational television can instruct, inform and inspire. An enormous amount of research consistently demonstrates students can learn as well (and sometimes better) than they can in conventional teaching situations. Because of television's ability to project and multiply experiences the great potential this suggests for upgrading education on all levels (elementary, secondary, college, university, and continuing adult education) is now being explored on an increasing scale not only throughout the United States but in Japan, the United Kingdom and many other areas of the world.

This conference on disseminating information on the educational uses of television which the North Central Association of Colleges and Secondary Schools, together with its Commission on Research and Service and the Subcommittee on Television which has brought us all here together on the Ohio State University campus is one example of that continuing and growing search and study.

"THE POPULATION EXPLOSION--ITS EFFECTS ON EDUCATION"

Ronald B. Thompson, Executive Dean
Office of Special Services, O.S.U.

The Problem

Approximately one-fourth of the entire population of the United States is now in school. More than 48 million students crowd our elementary schools, secondary schools, and our colleges and universities. The number of births per year has approximately doubled in the last twenty years. Increasing proportions of our high school graduates continue to enter our colleges and universities. As a continuing larger percentage of our population is represented in the group twenty years old and under, even a greater proportion of our entire growing population will be in school. In a few years, the number of persons attending school in the United States will approach fifty million.

It has not yet been determined whose responsibility it is to provide educational opportunities for these unprecedented millions who are coming to our colleges and universities. Only a relatively few communities have established a college or university. Most colleges and universities are now operating at or near what they consider their maximum capacity. Practically every dormitory room in the United States is now filled. Most of our better colleges are turning away more and more students each year. Tuition fees are being raised almost uniformly throughout the nation. What is the answer to these problems which face us in such magnitude that we have no precedent from which to find a solution?

Current Trends

There may be no one answer to the problem. However, month after month and year after year as individual decisions are being made to construct a classroom building here, raise standards for admission there, increase tuition fees elsewhere, establish branches of colleges or universities, establish a new college, seek support from corporations, or try one or more of the many other avenues of approach, patterns are being established for the solution of this problem. What are the educational alternatives which are available?

Educational Alternatives

1. EXPAND PRESENT CAMPUSES. One obvious solution to the problem cited above is the expansion of present campuses. If we rely upon this as the sole solution to the problem, it will be necessary to build within the next eighteen years more classrooms, laboratories, offices, and other physical facilities than now exist on all the college and university campuses in the entire United States.

2. MAKE BETTER USE OF PRESENT FACILITIES. In our effort to plan for the education of this tremendous number of students, every consideration should be given to the utilization of facilities immediately at hand.

Colleges soon may be forced to utilize facilities better and increase significantly the student-professor ratio. Parenthetically, if it can be shown that this is one method of increasing salaries, there may be less reluctance in making these modifications.

3. EXTEND PRESENT SECONDARY SCHOOLS to THIRTEENTH and FOURTEENTH YEARS. As the numbers of students beyond the secondary school continue to increase, another immediate solution presents itself in the extension of the secondary schools into the thirteenth and fourteenth years. Perhaps the greatest danger to such a plan is the difficulty in making this program really of college caliber. The temptation will, of course, be to make the work simply two more years of secondary education. Careful supervision and administration will be essential if this plan is to result in high-quality instruction.

4. BUILD BRANCHES TO EXISTING UNIVERSITIES. In order to assure the establishment of high-quality instruction, it has been suggested that these new schools be organized as branches of existing colleges and universities. This plan would encourage the natural close relationship and the supervision of the parent institution. Comparable facilities, libraries, laboratories, and other instructional facilities could be furnished at the new school and the quality of instruction could be checked quickly with the supervising university.

5. ESTABLISH NEW COMMUNITY COLLEGES. Many people feel that each community should assume the obligation of providing for the education of its own youth at least through the first two years of college, just as these communities have assumed the responsibility for elementary and secondary education for many generations.

6. ESTABLISH NEW STATE-SUPPORTED COLLEGES AND UNIVERSITIES. Because of wide discrepancy in the capacities of varying communities to support higher education, it has been proposed that the base be broadened for the support of higher education and that each state as a unit assume the obligation for the education of youth beyond the high school.

7. UTILIZE FULL CALENDAR YEAR. The utilization of the full calendar year by our colleges and universities could result in a real saving in the total cost of higher education. While there are admitted problems related to this alternative, colleges and universities on the semester plan may find it more feasible to add a semester to the present two semesters rather than increase the physical plant by 50 per cent in order to accommodate an increasing student body while leaving the physical plant idle during the summer months.

8. ESTABLISH TECHNICAL INSTITUTES. In the growing complexity of our American society we are finding that all postsecondary students do not fit into the conventional academic pattern. Many students who should not attend a traditional college of liberal arts could and should profit by postsecondary education.

9. UTILIZE NEW TEACHING AIDS. Professional educators whose business it is to train our youth and prepare our teachers of youth should be the first to develop new and improved methods of teaching to the end that the educational process can be achieved most effectively and economically. Many new teaching aids, such as radio and television, have been developed recently and tried more or less experimentally. Closed circuit television, with kinescoped presentations, has been used as a supplement to good teaching and, at times, as a substitute for formal lectures. While no one of these devices nor a combination of all of them will replace the good college professor, they can, when used intelligently, enable the professor to do more effective work as a teacher.

10. INCREASE STUDENT FACULTY RATIO. This is obviously not a popular alternative particularly among the teaching faculties in our colleges and universities. Administrators may find, however, that this may be one way they can live within their resources and at the same time raise faculty salaries while they are providing adequate instruction for an ever-increasing student body.

11. **RAISE TUITION FEES.** There are many who advocate that the local community, state, or nation has an obligation for only the elementary and secondary education of our youth and that education beyond the high school should be for only the most gifted and that this education should be practically self-supporting. Somehow we must find that balance which will enable the college and university to maintain a high level of academic excellence and at the same time permit those students who are willing and able to pursue a college education to be given the opportunity. Higher education must not price itself out of business.

12. **SEEK ADDITIONAL SOURCES OF REVENUE.** Unprecedented expenditures of funds will be required if we are to offer opportunities in higher education to the additional millions of youth who will seek admission to our colleges and universities in the years immediately ahead.

One controversial source of financial support for higher education is the Federal Government. There is always the fear that federal support will inevitably bring federal control. A look at the history of federal aid fails to substantiate this concern.

It may be that the time has come when we should forget our local pride, even our wider provincialism, and approach at the national level the problem of providing equal opportunities in higher education for all our youth.

13. **LIMIT ENROLLMENT.** There are many educators who, when they contemplate the enrollment of two or three times our present number of students, advocate stringent limitations of enrollment. Surely, following this fine American tradition of providing every possible opportunity for youth, this will be our last resort.

What, then, is to be our choice of the available educational alternatives? Shall we expand our present campuses, shall we make better use of our present facilities, extend present secondary schools into thirteenth and fourteenth years, build branches to existing universities, establish new community colleges, establish new state-supported colleges and universities, obtain additional sources of revenue, utilize our full calendar year, establish technical institutes, increase student-faculty ratio, utilize new teaching aids, raise tuition fees, or limit enrollment? Our choice will portray the depth of our concern, the extent of our vision, and determine the destiny of generations too young to choose for themselves. More important, however, it will decide the fate of our nation, for the hope of the nation rests in the enlightenment of its people. Let us choose wisely then that those who follow us may have at least the same high-quality educational opportunities it was our own good fortune to enjoy.

NORTH CENTRAL STATES

	18 year-olds in each state				18-21 year-olds in each state			
	1963	1965	1970	1975	1960	1965	1970	1975
Arizona	18,060	25,914	33,134	43,845	56,562	76,856	107,634	142,161
Ark	33,446	41,342	37,605	35,837	113,376	126,610	130,641	122,471
Colo.	27,108	37,904	42,102	47,568	97,070	123,153	156,924	181,359
Ill.	139,815	197,575	205,225	239,788	518,660	632,582	750,872	879,612
Ind.	71,250	100,310	109,133	120,472	261,308	324,723	397,130	449,829
Iowa	41,115	58,430	58,643	58,100	162,268	187,699	227,422	226,335
Kans.	29,253	38,745	41,762	46,212	103,787	129,800	152,814	180,120
Mich.	113,782	162,676	179,613	210,144	409,131	509,180	641,499	769,642
Minn.	49,737	68,775	72,070	77,532	191,796	225,124	273,035	292,517
Mo.	60,275	82,675	83,213	91,638	226,957	269,976	315,731	349,290
Neb.	19,302	25,706	27,047	26,529	67,154	81,514	97,295	100,373
N. Mex.	14,495	19,245	24,149	25,999	55,674	66,573	87,902	101,239
N. Dak.	9,453	12,269	12,306	11,983	36,368	40,662	46,963	46,830
Ohio	133,026	198,100	207,606	244,444	480,368	616,699	759,540	895,920
Okla.	37,381	46,490	44,731	43,412	145,902	157,505	163,853	166,214
S. Dak.	9,719	12,900	14,321	13,746	35,372	41,456	52,759	53,053
W. Va.	32,402	45,721	41,053	36,820	134,454	144,814	160,102	141,654
Wis.	54,740	74,897	79,246	85,891	197,480	242,083	293,265	320,279
Wyo.	6,254	8,352	8,741	9,279	23,347	27,441	34,131	37,479
Totals	900,613	1,258,026	1,321,700	1,472,839	3,317,034	4,024,450	4,849,512	5,456,377

Ronald B. Thompson
November 7, 1960

NOTES ON COLLEGE ENROLLMENTS

1953	Predicted 1959	Actual 1959
2,250,701	3,338,656	3,402,297
	48% increase	51% increase

	College Age (18-21)	Enrollment	%
1953	8,001,654	2,250,701	28.1
1959	8,785,930	3,402,297	38.7
	9.8% increase	51% increase	
1970	13,609,831		
1975	15,367,168		
1976	15,578,413		

United States Population

January 1, 1953	158,434,000
January 1, 1960	179,245,000
	13.1% increase

July 22, 1960

CASE STUDY--ETV IN THE COLLEGE AND JUNIOR COLLEGE

Glen Starlin, Director
Inter-Institutional TV Teaching
University of Oregon

We have lived for sometime now in a Machine Age--printing machines, sewing machines, weaving machines, flying machines-- all kinds of machines have been invented to help man to help himself. As society has become more complex, man has introduced more machines to make life simpler and easier, and in turn the adjustment to the new machines have made life more complex. Many of these machines have been developed to ease the physical demands of particular jobs and to permit increased production with shorter working hours.

More recently, man has introduced machines designed for purposes other than relief from physical labor or repetitious tasks. Discoveries in electronics have revolutionized communications, computation, and other factors related more to man's mental processes as opposed to his physical labors. Radio, television, electronic computers, robots, teaching machines have all brought profound changes to our lives today.

Just a few days ago the 20 ton Univac, with 2000 miles of wiring and 5000 vacuum tubes was "programmed" to help ABC predict an early outcome to the national elections. Similarly, was IBM 7090 engaged in the services of CBS, while RCA's 501 was being tried out for a first time on a TV election report by NBC. The Age *of the Thinking Machine is upon us*, as well as the use of communication machines, specifically television,--to relay to us all the knowledge of the Thinking Man.

Just a few weeks ago over a commercial TV station I watched a fascinating program on The Thinking Machine. As I sat there watching a machine bring me a program about the potential of a thinking machine, I was again impressed with the real potential of television for bringing thought and knowledge to people. But when I reached this impressionable stage of wonder regarding the miracle of machines, I try to regain some perspective by remembering a story I heard not too long ago. Perhaps you have already heard this story of a "Thinking Machine." It was a block long, five stories high, with all of the necessary clicking relays, spinning wheels, flashing lights and electronic screens--the ultimate in the thinking machine class. A large crowd was gathered to witness the inauguration of the machine and as the most distinguished senior scientist in the country was present, he was asked to put the first question to the machine. After pondering a while, he asked the question that had long mystified him, "Is there a God?" This question was "programmed" into its mechanical brain and the machine clicked and clanged and whirred and blinked lights, and carried on in true mechanical and electronic brilliance, and finally, a card was ejected down into the "answer bin" with three words neatly typed upon it--"There is now!"

I tell this story to remind myself, and you, that television in education is not the one and only and ultimate answer to the problems introduced by population explosions, and lack of qualified teachers, and many of the other concerns we have about education today...Television has something to offer in education, much to offer if it is properly used-- In some ways, television may be a god-send, but it is certainly no God.

If this has established some perspective, then, regarding the use of that "television machine" in teaching, let's look at the Oregon experiment as a case study in collegiate teaching by TV. (I chose to review the Oregon Scene rather than to attempt in a short time to give you an overview of the nature and extent of ETV use in colleges and junior colleges throughout the nation. I trust this will outline a typical development of television's use at the collegiate level.)

Since the end of the TV ice age in 1952, we have been interested in the potential of television for the State System of Higher Education in Oregon. A study conducted in that year by an inter-institutional committee recommended a master-plan for use of educational television in the state, but necessary funds and legislative support were not forthcoming. Continued interest and desire to experiment with televised teaching on an inter-institutional basis finally resulted in the interest and support of The Fund for Advancement of Education who agreed to underwrite a two year period of experimentation in the simultaneous teaching of courses by television to four different institutions of higher education in the state of Oregon.

The original plan called for a closed-circuit television network to connect the institutions, but the cost of leasing facilities from the Telephone Company was so great that the plan was abandoned in favor of erecting an educational television transmitter centrally located among the institutions.

This was accomplished, and, starting in the fall of 1957, the Oregon State System of Higher Education initiated a program of teaching common course offerings by television to students viewing in classrooms of three public and one private institution of higher education in the state. These institutions were the University of Oregon at Eugene, Oregon State College at Corvallis (40 miles distance), Oregon College of Education at Monmouth (20 miles farther), and Willamette University at Salem (another 15 or 20 miles away). Three courses were offered the first year by open-circuit broadcast from production studios located on both the University and the State College campuses. The courses were United States History, General Chemistry, and a year's sequence in Education--with courses entitled School in American Life, Human Development and Educational Psychology: Learning. Chemistry was repeated a second year, Appreciation of Literature, English Composition were added and since that time we have televised Introductory Geography, Descriptive Astronomy, General Hygiene, 19th Century Poetry, Meteorology, and Fundamentals of Accounting.

Since the University is basically a liberal arts institution with several professional schools, the State College is basically a scientific and technical institution, Oregon College of Education has until recently been a college of education (which now also offers a general college degree) and Willamette University is a small private liberal arts college--the variety in kind of schools, and philosophy in education, did present problems, excuse me "challenges" (I am told by an educational philosopher friend of mine that thereare no problems in education, only challenges) in setting up the program, as well as those "challenges" in communication enhanced through geographic separation.

From the beginning, the plan for utilizing television as a teaching tool on an inter-institutional basis was looked upon as an experiment. Our primary interest has been to search out the potential of television as an instrument which might improve the quality of instruction and which might be used to distribute and multiply the effectiveness of outstanding teachers.

Participation in the project has been on the basis of decisions by the different school administrators and faculties rather than by edict of the Chancellor of the State System of Higher Education. A basic assumption of the experiment has been that television as an aid to teaching must be looked upon as an evolutionary rather than a revolutionary tool and that the experimental use of it should be by choice rather than by arbitrary order. This approach demanded considerable discussion and negotiation with the different institutions so that mutual agreement could be reached on course offerings. It required further some subtle adjustments in scheduling, in course content, and in other factors in order that established patterns at different institutions and conventional teaching methods and staff teaching loads would not be completely disrupted by the televised teaching experiment. As might be expected, obtaining cooperation and maintaining coordination and communication among the several institutions has proved a most difficult problem, excuse, a most interesting "challenge."

The greatest "challenge" has been combating the resistance of faculty to the use of television for instruction, especially TV's use on an inter-institutional basis. Most professors are conservative, if not reactionary, regarding teaching methods or the introduction of such a startling innovation as television to education. The willingness to use such a medium of instruction is complicated by factorsof status, prestige and ego of the teachers involved. When one teacher on a single campus is chosen to teach a course by television, you can imagine some of the resultant feelings and questions which develop in the minds of professors on other campuses who are also considered specialists in that teaching area, and whose potential students are asked to take the course from another professor presenting the course by TV from another campus. There have been enough faculty members interested, however, that we have been able to carry out inter-institutional teaching quite successfully. Although there are many professors who look to television as a new teaching opportunity, the matter of wide faculty acceptance of this method of teaching is still one of concern.

There seems to be no problem with student acceptance. If the teaching is of good quality, students don't seem to care whether the professor is from their home campus or from some other institution. Taking courses by inter-institutional television does not seem to legislate against the students. Our findings indicate comparable achievement by students in televised versus conventionally taught courses, and comparable achievement by students on all campuses reached by telecourses.

After four years of experimentation in televised instruction among several institutions, we would say that such instruction is feasible and desirable if the administration and faculty of the different institutions enter in to such instruction somewhat willingly, and, with an attitude of cooperation and healthy investigation regarding the opportunities and advantages which this type of teaching might bring to the higher educational scene.

Apparently there will be continued use of television for teaching on an inter-institutional basis in Oregon. Next year was to have been the end of a five-year experiment in inter-institutional TV instruction. The presidents of the various state supported institutions of higher education and the Chancellor of the State System of Higher Education recently agreed, however, to continue the use of inter-institutional televised teaching as an integral part of instruction in the state. Negotiations are presently being carried out to set up such teaching on some permanent basis.

Construction of another ETV station is currently underway as the first link of a TV network in Oregon. This station will be located in Portland and will begin broadcast shortly after the first of the year. Microwave connection of this station with our present station in Corvallis will permit broadcast from both stations simultaneously to reach four of the six tax-supported institutions of higher education in the state. (OCE, OSC, PSC, UO) Production studios will be in Portland, at Oregon State College in Corvallis, at University of Oregon in Eugene and at the State Capitol in Salem. Programs can originate from any of these points and be broadcast over either Channel 7 in the upper Willamette River Valley or Channel 10 in the lower Willamette River Valley at Portland. In addition to making these facilities available to these state schools, there are 6 or 8 private institutions in the coverage area who will be asked to share the advantages of open-circuit telecourses if they wish to avail themselves of the opportunity. Although the project I have been describing has been developed for classroom viewing by students regularly enrolled at the several state institutions, any interested citizen of the state may also enroll in the courses for Extension Credit. With the addition of the Portland ETV station, the two stations will effectively reach an area in which 70% of the population of the state resides. So, a large portion of the Oregon public will be given the chance to avail themselves of these televised educational opportunities.

I wish time permitted a more detailed review of our Inter-Institutional TV Teaching Project but I have been instructed to mention something of the potential of television in Junior Colleges also. For more information regarding the televised instruction we have been doing in Oregon, I suggest that you peruse the report of our first two years of experimentation in Inter-Institutional TV Teaching which does outline in more detail the pains and pleasures and problems we enjoyed.

If we were to have a good and true review of the use of TV in the Junior College, we should have Cliff Erickson here to tell you of the televised course work they have presented over ETV station WTTW for the Chicago Junior College system. I recommend to you a recently published report which outlines their experience for the last three years in televised teaching. But Oregon has been experimenting with a TV Junior College for the past two years and I will tell you a little about it.

Since there are no Junior Colleges in the state of Oregon, it was reasoned a few years ago that course work equivalent to that offered in such institutions might be made available to the public over television in good viewing hours in the evening. (I didn't mention it, but all of the courses offered on an inter-institutional basis, which I have previously mentioned, are broadcast during the morning hours as regular 50 minute classes, three times a week for three hours of credit, two times per week for two hours credit.) Last year, then, a series of telecourses were initiated for broadcast over KOAC-TV in the evening hours as a start of a Junior College of the Air. Courses in Mathematics, English Composition, Principles of Economics, and Shakespeare were presented. This year the program continues with American Literature, History of Western Civilization, Problems of Philosophy, and First Year French. Those people interested in enrolling in these courses do so through the General Extension Division of the State System of Higher Education.

In terms of enrollment, these TV Junior College offerings have attracted comparatively few students but it is expected that enrollment will increase appreciably when offerings are made available in the heavily populated areas around Portland after the first of the year. There has also been a very successful televising of a General Psychology course in the early morning hours over a commercial TV station in Portland during the past two years. This, plus a history course, will move to the ETV station in Portland and they will become a part of the Inter-Institutional and/or TV Junior College program.

Though enrollments of the general public have not been in large numbers (there are 205 registrants at the present time) those enrolled come from a wide area representing 53 different towns in Oregon and 7 different towns in neighboring Washington state. About 200 people who have not registered have written in for course material and sent money to receive the Viewer's Guides, and indications are that a fairly sizable audience is "looking in" on the courses. It is felt that these telecourse presentations are offering a good educational service to the people of the state and it is expected that the enrollment will build up somewhat as the service becomes better known to the population in the television coverage area.

In addition to the television teaching activity outlined above, each college in the state system is working toward the development of closed-circuit television facilities for use on individual campuses, and it is expected that lower-power UHF transmitters might be utilized at some future time to expand further educational opportunities to selected Oregon communities and to broaden the reach of televised education in the state.

Although I have dealt specifically with televised teaching, I want to point out that a more general type of educational broadcasting is being and will continue to be programmed by the state's ETV stations also.

The Oregon State System of Higher Education is committed to optimum use of television for education. This doesn't mean that televised teaching is being welcomed by everyone. There is still resistance to the "machine" and much friendly persuasion must be continued to point out the potential of television in education. We have not developed a situation which can be "programmed" into a Univac, an RCA 501, or an IBM 7090 and which will undergo analysis and report out each time that --"Oregon's use and plans for television in education spells glorious success!" Would that we did have some machine to help us analyze the "challenges" which have and do face us.

Somehow, now as my time runs out, I am reminded of a story I recently heard at the NAEB conference in San Francisco--(which means you have probably all heard it, too.) But it might, in a left-handed sort of way, make a point here.

I won't embellish or drag the story out in "shaggy dog" fashion the way John Crabbe did when he told it to me! It involves the situation where the passengers were ushered on to a jet-airliner in New York's Idlewild airport and, after they were seated and the plane all closed up and secured, a television tube lit up in the front part of the cabin and a handsome looking man in a uniform appeared on the screen. A voice said--"This is your pilot speaking, by tape recording, and I wish to congratulate all of you for being passengers on this soon-to-be historic flight. You are now on an airplane which will for the first time fly across the Atlantic Ocean completely by automation."--The pilot went on to explain in detail of all the research, development, and exhaustive testing of equipment which had been done to make the flight possible. This continued for some time and as a final word of assurance the taped pilot pointed out..."so with the introduction of advanced electronic equipment, and the substitution of finely tooled and tested machines, we remove the possibility of human error during flight. I assure you, ladies and gentlemen," he started to conclude, "you have absolutely nothing to worry about, to worry about, to worry about, to worry about..."

My point here is that we have available to us a wonderful machine which we have been testing as a useful innovation in education. Great strides have been made in tapping its potential, but we need more and better experimentation and evaluation of "educational" television to determine its true place and worth in education.

Lest those of us who have introduced television to education (or those of you who are striving to do so) think the battle of acceptance has been won, as we meet here to consider and applaud the successful use of television in education, I want to conclude by standing here in my Oregon ETV pilot's suit and encourage you all to use that electronic machine in all of its wondrous ways but to suggest to you also, that in spite of the advances made in televised education, we still have something to worry about, to worry about--to w-o-r-r-y a-b-o-u-t.

Now, if you would like to worry me with some questions about Oregon and television, I'll see what I can do about it...

CASE STUDY--ETV IN THE ELEMENTARY AND SECONDARY SCHOOLS

Charles Hettinger
Supervisor of Television and Radio Education
Pittsburgh Public Schools

"What can television do for my school?" This question is frequently asked of me in a manner tinged with skepticism and edged with antagonism. I answer, "What do your schools need?" I respond to a question with a question with no attempt at sophistry or flippancy. What your schools need may find its solution through television.

For example, last year the Pennsylvania State Department of Education made mandatory for the first time developmental reading courses in the seventh and eighth grades. Most of the Pennsylvania school districts didn't teach developmental reading in the seventh and eighth grades. Hundreds, even thousands of English teachers were suddenly faced with teaching a course that they didn't know how to teach.

And not only English teachers: those of you acquainted with scheduling problems in certain high schools know that also affected were some gym teachers, some music teachers, social studies teachers, and some shop teachers; They were all going to teach developmental reading. We saw a way TV could help the schools.

We put on two classes a week of seventh grade developmental reading and two in eighth grade developmental reading in the Pittsburgh area. This served a double purpose: to teach the youngsters developmental reading and to teach the teachers how to go about teaching developmental reading. This year we are repeating this course and it is very successful.

Philadelphia also saw a challenge in developmental reading, but they handled it differently. They didn't produce courses for use by teachers and children during the school day. They presented an in-service training program after school that gave in-service training credit that would help the teachers meet requirements.

After Sputnik, there was the thought that what is called "ninth grade science" should be moved down to the eighth or seventh grade, leaving the ninth grade free for biology, the tenth grade, for chemistry, and the eleventh grade for physics and more specialized, advanced courses.

Through TV we started "moving down" what is ordinarily ninth grade science. One seventh grade course -- we call it "Junior High School Science" -- covers the biological sciences. Another course, "Eighth Grade Science," emphasizes physical science. We don't give grade levels to these programs because schools use them in the seventh, eighth, or ninth grades.

Here's another example of how television has helped us in Pittsburgh: with the help of some Ford Foundation money, we started an experiment this year of schools in depressed or culturally deprived areas. From our experience and our test programs we knew that these areas -- with almost 100% Negro population -- don't have the same cultural opportunities for the children as other areas. The youngsters there have the same educational opportunities as other children, but not having the same background to work with, they can't grasp these opportunities.

We decided television could help here because there are things we can do over TV that we couldn't do in each of these schools in culturally depressed areas.

For example, a teacher of current events for fourth, fifth or sixth grades, presenting a class on TV could get guests, visuals, etc. which would be impossible to do in each classroom.

Another example: a course for second and third grade we call "Social Living." This encompasses safety, health, good eating, science, social studies, etc. -- a little bit of everything. Doing this on television has helped answer some of our problems in Pittsburgh.

Farther afield, in Dade County, Florida, the population was growing so quickly they couldn't provide enough schools or classrooms. From the speeches and articles by people in the Dade County administration, I understand that the only way they have been able to keep their school systems functioning normally on a full day's schedule is by using televison and large classes.

There are areas in the United States with many small school districts, with school buildings with less than 100 students. It has been impossible for those high schools to offer courses which the youngsters should be getting. Television has helped those school districts offer courses which would otherwise be unavailable.

Television is no magic box. It doesn't contain answers to all our educational problems. But on the other hand, it is not a one-eyed monster that will drive teachers out of classrooms and turn our children into passive sponges. It is merely a means of communication with certain advantages: it appeals to both sight and hearing at the same time; you can get an intimacy into demonstrations or lectures that you can't in the classroom; it can extend superior teaching. But the use of television doesn't in any way modify the goals of education. TV is only a means of achieving those goals of education which, without it, couldn't be achieved under present conditions.

In Pittsburgh we say that if every one of our classrooms had in it a superior teacher with a reasonable number of youngsters, and was well-equipped, we might not need television. I don't know about your district, but we don't have many classrooms like that. I don't know what "a reasonable number of youngsters" means, but when I taught high school composition, my smallest class was forty, and I know that forty is not "a reasonable number."

Well-equipped classrooms? I've gone into many elementary school classrooms where equipment consisted of two drooping flowers and one medicine dropper.

Even if we had a superior teacher with a reasonable number of students in a well-equipped classroom, I think we could still do some good with television. Even in that perfect classroom, textbooks serve a fine purpose.

A superior teacher could teach without textbooks. Youngsters could learn without them. They have done it for thousands of years. But they learn better with textbooks. They learn better with proper use of film and maps and globes and chalk, and television.

In television there is no face-to-face contact with the television teacher. I would be the last to deny that face-to-face contact with a fine teacher is one of the greatest things that can happen to a student. Nowhere in this country has television taken over. In most places the youngsters have only a class a day via TV, and on this TV lesson they usually have "a superior teacher." Might it not be worthwhile for them to meet another fine teacher by television they might not otherwise have met?

Television is a mass media and some people worry that it "doesn't take care of individual differences." I submit that on the secondary level in this country today we merely pay lip service to individual differences. In a few places teachers do something about it, but they are in the minority. I don't think this is true in the elementary schools. I think they do a tremendous amount of work on individual differences. But how much individual attention do your youngsters get in the secondary schools in your district?

I suspect many teachers do what I did one time. I had four classes in American Literature. All four classes got the same lecture, the same discussion, because I didn't want them to get too far separated. I would have an extra lesson to plan and work out if they did.

What I could do was limited. We do very little about individual differences on the secondary level. Using television properly we can do more than we can under other circumstances.

Television also releases the classroom teacher to observe her class. A teacher cannot be a performer and observer at the same time. Teachers who take the opportunity of the television lesson to find out what problems face their youngsters work along with the TV teacher are better equipped to do the "followup" to the TV lesson.

The classroom teacher in the followup is doing something every bit as important as that of the TV lecturer. There are two steps to the teaching process: presentation of the material, the information, the facts, and secondly, making the facts part of the student's experience. The TV teacher does the presentation of fact. The classroom teacher helps direct the facts into wisdom and true knowledge.

These are the eight things we think television can do for the schools in our area:

1. Fill special needs such as the developmental reading courses or moving ninth grade science down into the lower grades.

2. TV can offer schools courses not available any other way.

3. TV can enrich school courses by showing real, live and concrete the things which were merely in books before.

4. A first-rate teacher can reach 40,000 students instead of just 40.

5. Television can serve as "in-training service" for teachers.

6. It can stimulate greater activity in each classroom.

7. It's an effective means of public relations, bringing the school into the home.

8. It can extend the school day.

Less than six years ago, Pittsburgh was the first place in the world to attempt basic teaching by television. We only used twenty classes. We were afraid if it didn't work that we would ruin the lives of the youngsters in those classes. Now we number our television classes by the thousands. More than 600 different U.S. school districts are doing the same thing. The Midwest Program for Airborne Television has a potential classroom of five million students. Half a million youngsters in the New York area received part of their education last year by television. Two states already have educational TV networks. Several others are in the process of getting them. Scores of colleges are using television.

This is the growth in six years. Something that has grown so strongly in such a limited time must have in its future only growth. Television has nearly come of age. It will come of age to the extent that those of us who work in it bring to it the inspiration and perspiration to endow it with life and vitality.

PROBLEMS OF THE SCHOOL ADMINISTRATOR USING EDUCATIONAL TELEVISION: SCHEDULING

Paul C. Garrison
Superintendent of Schools
Richmond, Indiana

Richmond is a town of 45,000 located in central eastern Indiana, with an agricultural and industrial background. It is slightly conservative, slightly above the state average financially. In our schools, from kindergarten to the twelfth grade, we have about 9,500 boys and girls.

Like any other community we're keenly aware of the debates over our schools' strengths and weakness since Sputnik I. Our administrators, like most, have given considerable thought to ways of upgrading the quantity and quality of educational offerings.

In the fall of 1959 we first received information on the Midwest Program on Airborne Television Instruction. Among its objectives: (1) to broaden the range of available educational offerings; (2) to increase the quality of offerings and at a cost less than that for achieving such quality by any other means; (3) the development of long-range financing of the airborne program by local, and state authorities throughout the six state area.

Richmond was well situated to participate in the program. We are only sixty air miles away from the airborne transmission at Montpelier, Indiana. Many of our school buildings have conduits for TV wiring. We initiated our plans during the first months of 1960. First, we held a series of discussions and talks to service clubs, parent-teacher organizations, etc. Secondly, we accumulated all available information as the basis for faculty discussions.

Sufficient interest was shown by staff and community to recommend to our Board of School Trustees that we participate, realizing that the success of the experiment would depend upon a large enough number of schools participating.

The Board stipulated that any teacher or principal participating in the voluntary airborne experiment must have preparation in one of the airborne workshops held in the summer of 1960. We were delighted to find that participating educators from eight of our schools, ranging from kindergarten to high school, attended the workshops.

Following issuance of the MPATI schedule of courses, all our participating elementary teachers and principals met to make specific course plans. Secondary school participants also met. It was obvious from the plans of the second semester --the starting period for the airborne experiment--that some rearranging would be necessary in various buildings.

We asked that the plans of each building be in our hands by November 15 so that we could work out the technical aspects. We realized the need for keeping records. We proposed techniques of evaluation.

By October we secured sufficient funds for sixty to seventy school installations.

We don't feel our plans are unique--there are still unsolved problems of evaluation, equipment installation, value for "in-service" training. We have tried to inform and prepare our teachers, parents, school board, and other members of the community of what we propose to do and how we propose to do it, with the hope that the results will enable our people to have better educational opportunities.

in our schools. Our teachers and administrators have devoted time and effort in studying ways and means to implement this challenging technique for learning.

Regardless of the outcome, we feel we would not have been true to our profession unless we had made every effort to use the opportunities furnished us in the sixties. It is a thrilling adventure. We hope it turns out well.

PROBLEMS OF THE SCHOOL ADMINISTRATOR USING EDUCATIONAL TELEVISION: PLANNING

Philip R. Pitruzello
Staff Associate
School Improvement Program
Graduate School of Education
Chicago

Extensive work has been done in the area of staff and resource utilization, and the Ford Foundation has supported much of the experimental work which has been done in schools throughout the country.

It was prompted by serious concern over the teacher shortage we are facing, which is growing more acute.

One of the major ideas explored is that of utilizing teacher time better, especially in the area of large group instruction. They envisioned using all aids--human or technical--to save teacher time and improve instruction.

They were concerned (over the fact) that although films, television, radio, filmstrips and teaching machines had been around for a long time they had not made the impact they should have within the teaching profession. This was not because of a rejection of theoretical concepts, but the radio era had come and perhaps gone without making a real impact in education, for example.

Exploring further, it was observed that there are two main ways a student has access to learning in the secondary schools, verbal and through the written word.

In offering possible solutions to the problems, the question of scheduling had to be faced. There is a traditional rigidity about scheduling. The day is divided into forty or fifty minute periods, and once it is set it isn't varied.

The Secondary School Principals' Committee felt that pupils might meet in small, medium-sized, or large groups, whatever size group was compatabile with the activity to take place.

Some way, a decentralized decision should be left up to the teacher so that pupils on a given day could meet in a large group or a small group without the necessity of disrupting the whole school day. Not only should the time block assigned to a particular activity or subject vary, but not all subjects should necessarily meet every day.

The major recommendation by the Staff Utilization Committee was the use of some form of team teaching. Many variations are possible, but basically it means that a team of teachers takes responsibility for a group of students. The ideal teaching team would have a composite of complementary skills greater than the skills possessed by each teacher separately.

With periods of time devoted to large group instruction, teacher time can be freed and redeployed in other areas, and a greater flexibility can be obtained within blocks of time. The aim of the staff utilization group was to let the activity determine its time block and to redistribute teacher time saved into more planning and other desirable activities not now being done in our schools.

Unless our schools adopt this procedure, I feel that television will remain, as have other educational aids, as enrichment, but not as an integral part of the program. I don't think it can become an integral part of the classroom program until our schools obtain a flexibility that will allow this to happen.

PROBLEMS OF THE SCHOOL ADMINISTRATOR USING EDUCATIONAL TELEVISION: FINANCING

Kenneth Oberholtzer
Superintendent
Denver Public Schools

The matter of financing begins with the status conceived for television: as the licensee of an "open-circuit" community TV station, or of a closed-circuit installation I shall talk of our experience as licensee of Channel 6 in Denver, Colorado.

First come the capital costs of getting a station underway: legal and engineering surveys, then equipment and buildings, installation, maintenance; then operations, personnel, scenery, overhead costs, and administration.

The ways of financing also vary greatly. Many operations are begun by gifts, grants and "outside" sources of funds. Other ways are special appropriations from a board of education or a legislature. A third is as an integral aspect of the entire instructional program and the budget of a school, school system, college or university.

A typical pattern for many licensees is a community council, corporation or foundation. Several school systems, colleges and universities are licensees. There are state networks, there are those who use commercial facilities, or combinations of commercial and non-commercial facilities.

There is a necessity for inventiveness in financing from combinations of local, state and national resources such as the National Educational Television and Radio Center, the Ford Foundation's Fund for Adult Education , the National Science Foundation, the U. S. Office of Educationa, under Title VII, and other sources.

Many educational stations are in the business of production contracts and services in the community. Under the sponsorhip of local agencies there are direct appeals with brochure to the community, contributions from subscribers, school systems, and colleges, the use of telethons, and in the case of a California station, an annual auction.

There is always at least one principal financial source. Other supplementary, continuing bases of support have to be found.

A second aspect of the problem is to find the funds to produce the kind of quality desired in your programs. After getting underway, this matter of finding funds to make the difference between ordinary and extraordinary programs is the biggest problem.

A third and almost equally important problem of financing, specially related to quality, is the securing of funds for research.

Securing funds for program production, improving quality, and for research is a lot of hard work, demanding the greatest inventiveness we can bring to it.

PROBLEMS OF THE SCHOOL ADMINISTRATOR USING EDUCATIONAL TELEVISION: UTILIZATION

Miss Helen Seel
Department of Radio-TV
Cincinnati Public Schools

The school administrator, as I see it, has two important roles in the use of television, orientation and control of technical quality.

By orientation, I would mean explaining the role of television to parents, teachers, pupils, to answer such questions as "Is this an experiment?" "Will the children be given any tests, and if so, will they affect their grades?"

I think the other responsibility of the school administrator is the technical control--the whole problem of installing and maintaining equipment. If the children can't see or hear well, or if they are in rooms where they are uncomfortable, this can have a tremendous bearing on the actual use of the telecast lesson.

The classroom teacher is not relegated to a minor role by the television teacher. The classroom teacher has the specific role of creating the climate for learning. She can either make or break the effectiveness of television by the way she explains "what we are going to have today," and the way she turns on the TV set. She deals directly with the children and their parents. She gives the grades.

By using television the classroom teacher is freed of some of the advanced preparation, and left free to spend more time preparing the follow-up discussion. How can we expect a teacher with assignments all day long, dealing with from 150 to 500 pupils, to operate at maximum speed and efficiency all five periods a day, and find time for a great deal of preparation?

Television teaching affects the role of the pupil too: he must be attentive and learn to concentrate. He must be able to differentiate between what is of first importance in each lesson and what is secondary. Even in the lower grades he may have to know how to take notes, and be more responsible on his own.

What is the role of the television teacher? Does she have in mind as she prepares the TV lesson the goals of the course, does she take opportunitities to answer questions the students would most logically ask, does she allow time for the students to think and react? Does she limit the lesson to the purpose already defined, and work within the time limits of the lesson and develop a few concepts well? Does she prepare for the classroom teacher an outline of each program, study guides, and suggested activities for the "followup" in the classroom? Does she decide what can most effectively be presented in the television part of the lesson, and what can most effectively be done in the classroom?

In our whole utilization of television we have to find better ways of evaluating what we are attempting to do. I feel that because our means of evaluation are of a formal type we are doing many things on television for which we have no good means of evaluation.

NEW PATTERNS AND NEW MEDIA FOR EDUCATION

Thomas Clark Pollock, Dean
College of Arts and Science
New York University

It requires a wide angle of vision to put television in its place as one of the newer media of communication now available for education. Television and the other media which were not available at the turn of the century and are available now, make possible new patterns of education.

Until a comparatively few years ago in human history, the only two means of communication which could be used for education were face-to-face oral communication and the written word. From our earliest youth, we have been accustomed to thinking in terms of the classroom as the center of education. We have been educated this way ourselves from elementary school into high school, into college, and into the graduate school.

The typical system is to work out a course of study and to assume this must be taught by a teacher in a classroom. Year after year as I have tried to think about the new media, I find I keep making assumptions that the classroom is the necessary center of education. This is hard to break. I suggest that you watch how often in your writing and speaking, or in the writing and speaking that you see and hear, "classroom" is equated with education, and that the idea of teachers for classrooms is equated smybolically with the very idea of education.

I believe that really good thinking about education from now on must begin with the recognition that oral transmission in a classroom is not necessarily the only setting for education. There seems to be an assumption that in using television, we will televise regular classes, with the classroom inevitably the center.

I suggest that what we should be doing from now on is to try to think about the goals of education we wish to achieve in terms of the media for educational communication. It seems to me a serious mistake to assume there is just television or that television must be primary. Sometimes as we think about television for education we assume that it can do everything.

I am thinking about the newer media as plural. I have no idea that any one of them is the central one. The first we have is the quick and cheap duplication of the written word. The most obvious example is the paperback book. There are many other quick duplicators of the written word. They are extremely important, and I don't think we have really caught on to using them in educational practices.

Until a few decades ago, it was assumed, and still is, that the written word was a rare, valuable item. It was. Dartmouth, through the end of the eighteenth century opened its library just one hour every two weeks. Dartmouth did not permit more than six people in the library at one time. Freshmen could take out only one book at a time, and that only if they got to the library that one hour in the fortnight when it happened to be open. There were many reasons for this, but the main one was the rarity of books.

My father's family comes from western Pennsylvania. We have a deed for some land bought around 1820. It is a valuable deed in many ways. It is written on a small bit of paper and it is very closely written on, because paper was extremely valuable in western Pennsylvania 130 years ago.

We are still in a stage where we do not use the written word as often or as widely as I think we can. I try to point this out in talking with college teachers. I feel they do not do as good a job as I think they should in giving their students at the beginning of the term, clearly stated in writing, what they really want the students to learn. They assume that if students come to class day after day, and teachers, whenever they think about it, pass this out in oral fashion to a captive audience, this will do it.

Secondly, I stress the large group of items, including television, which I will call "audio-visual extension and preservation."

The normal class cannot extend itself. You can use a larger classroom but you cannot extend it as radio or television can. In preservation, we are well advanced technologically in preserving the spoken word now through various devices for recording. Fairly soon we hope to have reasonably inexpensive preservation via television tape. RCA engineers are hopeful of having within the next few years a television tape recorder within the $15,000 range. They are conscious of the need for a breakthrough here.

Thirdly, we are beginning to get involved in the area of teaching or learning machines. Some are already being marketed.

As I see it the significantly new thing about what I am calling a teaching machine--we have an example of it in some of the uses of language tapes--is the breaking down into extremely small steps, the necessary sequence of learning in a specific subject.

A new English book has been published which has the first carefully planned and programmed workbook which could be put into a teaching machine. The teaching machine gives the material to the student just one step at a time; the student is asked a question; if he doesn't give the correct answer, he cannot go ahead in the book.

There is still a psychological argument here as to how much external aids can help to reinforce learning. To exaggerate a bit, when the student gives the correct answer, something is there to give him an immediate pleasurable experience, to make him feel good that he got it right. Whether or not that is Psychologically good or necessary can be argued, but the teaching machine does present the possibility of a student being taught and checked immediately on his learning. I think there is going to be a very valuable usage here--one student at a time using it without involving the rest of a class.

It seems to me that in using these new media we have a real challenge to rethink the methods and patterns of education. We should start with a very clear definition of the specific goals of education. We have not entirely shaken off the age-old belief that education is a mystery.

If we go back into the history of mathematics to the time when the priest and the mathematician lived together, mathematics was something that was hidden, that one didn't try to explain. There was something wrong about analyzing it too carefully.

In the field of history, I know three historians who felt for years that it was somehow wrong to define the specific goals they were trying to attain in teaching a specific course in history which was already defined by title. I think if you analyze the thinking of some of your colleagues you'll find that this is still often true.

I am not trying to deny the importance of interpersonal communications. I believe with Martin Buber that what is essentially human comes from one human being looking into the eyes of another human being. This is not what I'm talking about at all. I'm talking about the way we tend to refuse to clarify the specific goals we want to reach.

As far as we can we should make clear to the student from the beginning where we think he should go. Immediately we come up against the educational assumption that the student should not define his own goals. I would say this is true to a degree, but the formal education system does this: If a high school student is asked to take a course in first year French, we assume we are trying to get him to develop in first year French something rather than what he decides is the goal. The student should be helped to understand this. We should go farther.

We should think more about scope and sequence in relation to each thing we are trying to teach. In the teaching of literature, for example, we haven't even begun to think of facing up to scope, and very rarely, to sequence. I feel I could prove it in this field because in this, I am a specialist. I might not be able to prove it in the subject matter field in which you are a specialist; but as far as I am able to see, we haven't done the job.

I think we are challenged to do the best creative thinking we can, not merely in using television as a tool in the next three or five years; we are challenged to try to imagine how television and the other media of education that we now have can be used to work out the best patterns of education.

This does not necessarily mean using classrooms at all. It means using classrooms where they happen to be the best medium of communication for the students in the last decades of this century and in the future.

THE TEACHER'S COLLEGE: RESEARCH IN CLOSED CIRCUIT TV

Robert J. Keller
Professor of Education and Director
University High School
University of Minnesota

The same growth pattern of enrollments which has brought tremendous expansion to education at all levels has caused colleges and universities which prepare teachers to re-examine their policies and practices as they seek ways of educating more and better prepared teachers. In some cases these efforts have been restricted to the education of teachers new to the profession; in other instances major attention has been given to inservice education for existing faculties, or, to refresher programs for former teachers who now feel inclined to return to the classroom. The task of initial preparation, additional inservice education, or refresher training for those who have left the profession has been made more difficult by the rapid expansion in knowledge and technology which has accompanied the explosion in student population. Institutions which serve teacher education functions have been hard pressed to stretch the supply of qualified college-faculty members at a time when the size of the generation from which these teachers are drawn is declining in proportion to the expanding student population.

Many alternatives have been suggested for handling the problem. This is well illustrated by the dozen or more suggestions made yesterday by Ronald B. Thompson for handling the unprecedented college enrollments which will confront higher education in the next two decades.[1] Among these alternatives for college expansion Thompson has suggested "greater utilization of new teaching aids such as radio and television, including closed circuit television and kinescoped presentations." The present statement deals with closed circuit television and has been restricted to experimentation at the University of Minnesota. A further restriction in the subject has been the use of closed circuit television for teacher education.

Such restriction is in no wise intended to minimize the work in educational television which is being conducted elsewhere by the armed forces, and such institutions as New York University, Kansas State College at Pittsburg, Pennsylvania State University, San Jose State College, Wayne State University, Miami University, Michigan State University, the University of Oregon, and several other colleges and universities.[2] A review of what is being done in this field across the country is more extensive than can be adequately covered by this reviewer within the established limits of time. Many different approaches have been made to the use of educational television for preparation of teachers. Some have already demonstrated themselves to be highly practical; others provide little promise of success.

---

[1] Ronald B. Thompson, "Educational Alternatives," Speech delivered at the NCA-TV Pilot Conference, November 12-14, 1960.

[2] A recent review of some of these programs appears in the July, 1960 "Special Edition" of Title VII - New Educational Media News and Reports published by The Office of Education, U. S. Department of Health, Education and Welfare. P. 63.

CCTV at Minnesota

Almost a decade ago when plans were being made for construction of a laboratory high school for the College of Education at the University of Minnesota, steps were taken to include the installation of a closed circuit television system within the building.[3] Each room was connected with every other room in the two buildings which later became known as Peik Hall and which now house the University High School. The same or an improved quality of coaxial cable was later added to connect the high school to three other campus buildings which are frequently used for College of Education classes. Included is a connection with Radio Station KUOM which serves as a coordinating agency for campus television and as a link in the microwave relay system to the St. Paul Campus of the University, approximately three miles away, and, thereby, to the Twin City Area Educational Television Corporation's Channel 2, KTCA-TV. The latter tie provides contact both with kinescope and video-tape equipment and facilities.

University High School thus maintains a closed circuit television installation for use primarily of the College of Education in seeking to fulfill its teaching, research and service roles within a land-grant, state university tradition. The installation consists of two G.P.L. (General Precision Laboratories) image-orthicon camera chains usually housed in a special studio classroom but capable of movement throughout Peik Hall. The camera chains, like those used by the WOSU-TV studio in Columbus, are each equipped with a four-lens turret and mounted on moveable dollies. They are connected with a director's stand located in a separate audio-visual, CCTV center which also houses the distribution amplifier and other equipment needed to originate telecasts.

The special studio classroom has a somewhat higher level of light intensity and some accoustical treatment of walls and ceiling. Receiving classrooms are usually equipped with standard 24 or 27-inch television receivers usually located along the sides and front of the room. One such receiving classroom is a large auditorium capable of seating 400 students. Sound originating in the studio classroom is picked up usually from three or four microphones suspended from the ceiling over the class and one worn by the instructor.

The University of Minnesota also maintains a closed-circuit vidicon television installation for dentistry simliar to that viewed yesterday at Ohio State.[4] Central studios for KUOM also provide facilities for originating closed-circuit and channel 2 telecasts. The College of Engineering is currently providing two courses in aeronautical engineering, "Experimental Mechanics" and "Rigid Body Mechanics" over closed circuit television. Channel 2 carries some college courses offered for credit by the University, one of the state colleges, and some of the private colleges located in the Twin Cities.

The College of Education is currently using closed circuit television demonstrations originating in University High School as an operational part of its teachers education program in secondary education. 1960-61 is the sixth year in which these television demonstrations have been used as part of an introductory professional education course at the junior year level. Considerable experience has been gained during this time, particularly with the assistance of a three-year grant from the Fund for the Advancement of Education (1954-57) and the current grant from the National Defense Education Act, Title VII (1959-62) through the U.S. Office of Education.

---

[3] Stout, Minard W. and R. F. Hammel, "Building a Laboratory High School." The American School and University, 1951-52. New York: American School Publishing Company, 1951. Pp. 265-274.

[4] "Studies, Tests Reveal Teaching Potential of Closed Circuit TV". The Minnesotan, a staff magazine, University of Minnesota. Vol. XIII, No. 2, November, 1959.

Research Developments

The project sponsored by the Fund for the Advancement of Education was primarily focused upon teacher utilization and ways in which closed circuit television might be used to reduce the need for number of college faculty members, while preparing as many or more teachers and maintaining a high level of program quality. This project generally demonstrated the feasibility of having large numbers of observers view the same demonstration simultaneously, thereby reducing the number of faculty members involved in instruction.[5] The staffing effect was only one of the gains noted by this procedure, however, since simultaneous viewing by the entire class provided the advantage of a common experience not usually found in classroom observation. Both college instructor and students were provided with a common demonstration which could be pre-planned and arranged to reflect the specific objectives of instruction which were associated with the unit under study.

Problems in Evaluation

These outcomes did not come automatically with use of the CCTV medium. Technical problems, very serious in early years, still persisted to complicate such telecasts of demonstration lessons. The usual studio situation in educational television does not exist since viewers are usually as much or more concerned with the students and their reactions in the demonstrating classroom as they are with the teacher. Outcomes of such demonstrations consist of more than the typical subject-matter learnings of much television teaching. They are concerned with the development of skills, understandings, problem-solving attitudes and values. Indeed, outcomes are sought. The entire realm of the teaching-learning relationship as it is related to perception and the translation of these outcomes into comprehension and understanding.

The latter is not a simple matter. Although teacher education institutions have been using classroom observation experiences as part of their programs for more than a century, very little research has been associated with the variety of practices which have existed and still persist. Some observation of one sort or another is associated with approximately half of the courses offered by teacher training institutions at the present time. But, practically no sound research evidence can be cited to indicate the additive effect of such experience.

Most studies of this type, chiefly made by psychologists, are restricted to the phases of classroom observation related to the process of coming to know objects by the senses, usually called "perception." Although meaning must be associated with sensory cues to satisfy the concept of perception, comprehension and understanding do not follow automatically. Accurate perception is a necessary condition for comprehension but it is not a sufficient condition.

---

[5] Final report is in prepartion. A preliminary report was issued by Robert J. Keller and Orrin E. Gould entitled Closed Circuit Television in Teacher Education, A Second Report of Investigations in Progress (currently out of print). College of Education, University of Minnesota, June, 1957, P. 65.

Although there is a growing body of evidence that indicates that accuracy of perception can be improved through experience and instruction, very little of this evidence has been associated with classroom observation in teacher education. The complexity of the teaching-learning situation with all of its ramifications for teacher and student, for materials of instruction and methodology, for content of the lesson and purposes of both teacher and learner, and for the philosophic and psychological framework which undergirds the demonstration--all these made adequate evaluation difficult. Appropriate measuring instruments do not yet exist to serve such manifold purposes.

Current Research

Initial efforts to develop an observation skills test were only partially successful. The problem was chiefly that of securing adequate reliability for an instrument judged to have face validity. At the present time a second major attempt is being made to develop an observation skills test. The pattern is like that of a reading comprehension test in which a passage of reading material is followed by a series of questions on content.

In the present test incidents of actual classroom demonstrations substitute in film (kinescope) form for the passage of reading material. Subsequent items revolve around categories reported to have been observed by students in Gould's earlier study.[7] These items also stress the objectives of the introductory course, Education 55 A, B and take the form of an educational interpretation of the classroom incident. They are answered on a five-response scale ranging from "strongly agree" to "strongly disagree" and include a neutral middle alternative. Two 150-item alternate forms of this test are currently being administered to criterion groups selected in such a way as to secure contrasting experience. High School principals from Minneapolis, St. Paul and midwestern laboratory schools comprise the experienced group. Sophomores in a beginning education course at Michigan State University and juniors at two Minnesota state colleges currently furnish the inexperienced group. (Unfortunately the present program is so filled that we did not feel it possible to request the undoubtedly expert services of this group even for research purposes in educational television. The temptation was great but both the film and the paper tests were left in Minneapolis.)

Three Ph.D. theses have now been completed on the basis of the early Fund for the Advancement of Education-supported project.[8] Gould analyzed the nature of student observation under three different conditions: use of closed circuit television demonstrations, educational films and direct classroom visitation. The same incomplete block design was used by Thompson and Abel. Thompson studied the relationships between student attitudes and the three conditions of observation while Abel sought to uncover relationships between the media and subject matter understanding.

Some findings of the three media are significant:

1. The pattern of what students observe from CCTV demonstrations, direct classroom visitation, and educational films differs from one media to the other. In Gould's study the content of film observation tended to emphasize methodology

---

[7] Ibid. Chapter VI

[8] Gould, Orrin E. Ibid.

Thompson, Franklin J. "Use of Closed Circuit Television in Teacher Education: Relationship to Professional Attitudes and Interests." Unpublished Ph.D. Thesis, University of Minnesota. June, 1960.

Abel, Frederick P. "Use of Closed Circuit Television in Teacher Education: Relationship to Achievement and Subject Matter Universtianding." Unpublished Ph.D. Thesis, December, 1960.

of teaching which was highlighted in the McGraw Hill series of "Understanding Children." Direct classroom observers were more likely to emphasize class qualities such as range of abilities, extent of participation, industry, discipline, etc. CCTV observers were quite like the direct observers but seemed more likely to emphasize qualities and behavior of individual students, their abilities, contribution to the class, acceptance of responsibility or achievement. Teacher qualities were more often noted in direct and CCTV observations than they were in educational films. This finding highlights the ability of the CCTV camera to screen out extraneous details and to focus clearly on aspects of the demonstration relevant to the lesson.

2. The experiences of observers tend to color their attitudes toward the observational medium employed. Those whose dominant medium was the CCTV demonstration preferred this medium in larger proportion than those whose dominant medium was either educational films or direct classroom visitation. The same statement could be made for the primary acceptance of each of the latter two media for both of the others. When the three media were compared directly, however, Thompson noted that direct classroom observation, the CCTV demonstration and educational films followed each other in that order of preference. The CCTV demonstration and classroom observation had greater acceptance than educational films for observation purposes and were not greatly different despite the level of significance attached to that difference. In general this order of preference persisted for detailed analysis of specific functions served by observation.

3. The usual finding of "no significant differences" was also a major characteristic of findings for the present three studies. This was generally true of pre- and post-test differences and level of accomplishment whether the measure was one of attitudes (Minnesota Teacher Attitudes Inventory, the specially constructed Course Attitude Questionnaire, or the Preferred Teacher Characteristics Scale); achievement (course examinations and standardized achievement tests including the Horrocks and Troyer "Tests of Humans Growth and Development") or the first edition of the Observation Skills Test which was previously described. One finding which deserves further scrutiny, uncovered in Abel's study, suggests a possible differential effect related to ability with high ability students better able to apply educational principles to interpret the observational experience than those of lesser ability.

The present study supported under Title VII of The National Defense Education Act has two primary points of emphasis: (1) The development of kinescope recordings of classroom demonstrations over CCTV for use in a variety of circumstances such as pre-service education during the introductory and student teaching phases of the program as well as inservice education; and (2) Research related to the effective utilization of the CCTV telecast, use of kinescope recordings, and direct classroom visitation for observation purposes. Major attention is given to the field of science, mathematics and modern languages at the secondary level but work has not been devoted exclusively to these fields.

The rapid development of science, mathematics and modern languages in a post-Sputnik period provides plenty of reason for major attention to these fields, however. We are seeking to develop a library of kinescope recordings on a variety of topics. Thirty such kinescopes have been made since June, 1960,

In modern languages the use of the kinescope recording enables the viewer to see in juxtaposition the same eighth grade class over a weeks work on skill development in German using the audio-lingual method.

Our mathematics department, for example, recently prepared a kinescope demonstrating the development and use of performance tests in which students were presented with a practical problem and such materials as blocks, spools, sticks, a motor or an electric train. The latter together with mathematical principles are to be used in the solution of the problem. Students in physics, in another kinescope, gain insight into the scientific method through an inductive approach to teaching in which these students are led from a new situation to discover for themselves underlying scientific principles.

New and unusual teaching procedures and course content or materials can be demonstrated by means of CCTV either directly or by kinescope and magnetic tape recordings. The sound track can be used to record the lesson itself or for a narrator to explain the educational significance of that which is being demonstrated. Ideas which evolve experimentally in the laboratory high school can thus be disseminated to teachers or prospective teachers for use in preparatory or inservice education.

A 6 X 6 replicated block design is currently being used to analyze the effect of the various kinds of CCTV and other observation with students in their introductory education course. Demonstrations are a regular part of classroom instruction. Both CCTV and direct observation are utilized in an effort to secure the best qualities of each. The Observation Skills test, several rating scales, plus a number of measures of attitude and achievement, comprise the instruments used in this research. The end is not yet in sight but much effort is being devoted to this project which is currently less than half-way through its three-year cycle.

Summary

Some progress has been made on the use of CCTV in teacher education but much more needs to be done. The present research has not been concerned with direct teaching or teachers or prospective teachers by educational television, though this has been demonstrated in other studies. The University of Minnesota has concentrated its efforts on the use of CCTV as an audio-visual aid to teaching and has emphasized the use of the medium for observational purposes. This has led to the need for greater understanding of the nature of perception and development of a measure of observation skills with the hope that this can be related to quality of teacher education.

Some advantages of CCTV become immediately apparent: its possibility for simultaneous viewing of the same demonstration by large numbers of observers, the size of the audience reached by a carefully pre-planned demonstration, the possibility of close linkage between instructional content and functions to the teaching-learning situation, and the economy of instructional staff which are related to the previously-cited advantages.

This experimentation also helps to identify problems both technical and educational. They concern the quality of audio pick-up in a normal classroom situation, the need for close coordination between the college professor and the demonstrating instructor, the development of good working relationships between technical and educational staffs in which the educational staff has priority, the amount of pre-planning which is required for effective demonstrations. Other questions include the kinds of content methodology, and class arrangement which are most effective on CCTV; and what kinds of educational objectives can best be presented via the several observational media.

For some of these problem areaswe now have some tentative answers. For others we are still seeking solutions. The experience of seeking and sometimes finding solutions in this area is an interesting and exciting one which involves much hard and concentrated effort but is never dull.

REGIONAL PROJECTS IN INSTRUCTIONAL TELEVISION--
GREATER COLUMBUS AREA ETV PROJECT, AIRBORNE TV, ETC.

William H. Ewing
Coordinator, OSU-MPATI Resource Center

I. Midwest Program on Airborne Television Instruction

MPATI, Midwest Program for Airborne Television Instruction, is one of the most dramatic efforts to help meet the critical problems of quantity and quality in education. Specifically, MPATI is organized first to broaden the range of educational offerings to schools - science and foreign language, for example - second, to increase the quality of offerings not only by use of the nation's most talented teachers, but by presenting demonstration materials, historic documents and other items which ordinarily would not be available to the classroom teachers. Thirdly, Airborne instruction expects to be able to do these things at normal cost.

MPATI will telecast instructional courses on elementary, secondary and college levels. The courses are pre-recorded on video tape and transmitted from a plane circling at high altitude over north central Indiana to schools and colleges in a six-state area. Transmission over UHF channels 72 and 76 is picked up directly, usually with special outside antenna and distribution system. Demonstration schools are being established in each of the 19 resource areas.

MPATI is organized to insure the maximum possible participation on the local level, both in the planning and operations stages of the project. In addition to large area committees of leading citizens, school and college administrators, curriculum and subject matter specialists and technical experts, many other qualified persons in and outside the six state area have been involved in the planning. An extensive research program will be carried out.

At the time of this report, interest in the Airborne program is growing rapidly and a preliminary survey, made in October, indicates that more than 500,000 school children would be involved in the early phases of the program. Although some delay has been necessary because of technical installations, all other phases of the program are proceeding as planned, and it is expected that full-scale operation will be underway in September of 1961.

II. The Ohio State University MPATI Resource Center

The Ohio State University is one of the nineteen resource centers for the Midwest Airborne Program and is serving approximately 25 counties in central and western Ohio. Interest in this area is very high and the preliminary survey showed that nearly 100 schools, with 35,000 students, were interested in participating in the demonstration phase of the project during the spring. Several schools have already installed receiving systems and many more are ready to proceed as soon as field tests can be made.

Demonstration schools have been established at Worthington and Dublin near Columbus. Interested school administrators, teachers, boards of education, or lay citizens may visit the schools to observe the MPATI program in operation and to obtain pertinent information concerning installation and utilization.

The resource center staff at Ohio State University has participated in numerous meetings with school executives, teachers, service and professional organizations not only to explain the MPATI project but to assist with plans for utilization of the programs. A series of short workshops are now in progress and a two-week workshop is scheduled for June 19-30 this year. The first two days of the workshop will be devoted to a general conference on Instructional Television for lay civic leaders as well as professional school personnel.

An area committee of thirty outstanding civic leaders and educators and a special university committee, not only serve in an advisory capacity, but assist in the development of better understanding and preparation for utilization of the programs.

III. TV Instruction in Columbus and Central Ohio

Interest and utilization of TV instruction has developed rapidly in the Columbus and central Ohio area served by WOSU-TV. In the 3 1/2 year period of service there has been a sharp increase in number of schools using the service on all levels including elementary, high school and college.

For example, in the first year of WOSU-TV instruction, 1957-58, a total of 165 students were enrolled in a course in Remedial Mathematics on the college level and a Driver Training course for high school seniors had an enrollment of 80 high school seniors. In the current year, 1960-61, a total of 57,676 students are participating in some form of TV instruction each week. Courses in science, art, physical education, remedial reading, French, and health education are now offered on various grade levels. Remedial Mathematics and Health Education are offered on the university level. Approximately half of the Freshman class is involved in utilization of the above courses.

Plans are now ready to begin courses in Zoology and Psychology. There is steadily increasing interest and support for use of television from administrative heads and faculty.

A closed circuit system is being installed on campus for use in TV instruction and research, as well as for experimentation with other media in the university's instructional program.

Financial support in the form of a grant from the Fund for Advancement of Education of the Ford Foundation has been available for the last two years and has contributed greatly to the development of TV instruction in the area and made possible a program of evaluation. It should also be noted that the Columbus Public Schools have not only pioneered in the use of television to meet instructional needs but have also given financial support to the program. Other schools in the area are making increased use of the programs and show a willingness to give support.

Further information concerning the Midwest Airborne Program or WOSU-TV Instructional Activities may be obtained by writing to the Office of TV Instruction, WOSU-TV, 2470 North Starr Road, Columbus 21, Ohio.

November 13, 1960

TEN YEARS OF RESEARCH IN INSTRUCTIONAL TELEVISION

The title of this address is "Ten Years of Research in Instructional Television." I should like to make four statements about this title which will help clarify just what I mean to cover:

1. I have chosen the period of ten years arbitrarily on the assumption that most of the significant research dealing with instructional television has been done in the last decade.

2. I define the term "research" to include not only those relatively few studies which would meet rigorous methodological criteria for good research but also those reports which can most charitably be described as inquiries into instructional television.

3. I want to draw a clear distinction between instructional television and educational television. The latter term may be used to designate any attempt to educate or teach via television, however informal the approach may be. So for example "Omnibus" is a form of educational television. The former term, instructional television designates formal, structured, and systematic approaches to the achievement of well-defined instructional objectives; it usually implies a school-type operation.

4. I should like to point out a crucial difference between instructional television and televised instruction. In the case of televised instruction, we simply interpose an additional means of communication, the television camera-receiver chain, between the learner and the teacher or the teaching situation. We imply by the term that we will teach in the old conventional way but transmit this teaching by electronic means. But the term instructional television implies that television can add something to the usual or normal instructional situation that would not otherwise be there; it implies that the television medium qualitatively modulates the teaching. Now, almost all of the research to date has been concerned with televised instruction, and very little indeed with instructional television.

Thus by my title I have proposed to limit discussion today, partly through deliberate choice and partly through necessity, to inquiries into televised instruction carried out sometime during the past decade. Having made this delimitation I should like to move directly into my main presentation. I propose to arrange my discussion into six areas which may be posed in question form as follows:

I Who does the research?

II How dependable is the research?

III What kinds of questions have been asked by the researchers?

IV What data have the researchers isolated in response to these questions?

V What questions have not been asked by the researchers?

VI What are some desirable next steps?

Unfortunately time precludes anything except a most cursory treatment of each of these questions.

I. Who Does the Research?

The general question of "Who Does the Research" can be broken into at least two aspects: (1) what kinds of persons are involved in research, and (2) who pays for it. Let us consider the first question. In a review of instructional television research published in 1956, Hideya Kumata lists some 244 papers; of these, 71 meet his criteria of research sufficiently well to be abstracted. My analysis of these 71 titles yields the following breakdown: studies done by university personnel in university settings, 28 or 39.5 per cent; studies done by public school personnel in public school settings, 10 or 14.1 per cent; studies done for the military in military settings, 8 or 11.3 per cent; doctoral dissertations, 6 or 8.5 per cent; studies done by or for television stations or networks, 4 or 5.6 per cent; miscellaneous studies (parochial school, U.S. government agency, or private research agency), 3 or 4.2 per cent. I was unable to classify 12 or 16.9 per cent of the studies. From these data, whatever they may be worth, it is apparent that the very large majority of studies are carried on in one of three settings: universities, public schools, or the military. University studies, if we lump dissertations in with them, account for 48 per cent of the total.

Who pays for these studies? Each of the agencies to whom I have credited some of the above-described research has some private source of capital. This ranges from very large amounts for the military to minimal amounts for small school systems. Insofar as research is financed by outside grants, however, we may point to three major sources of funds:

1. The military. Army, Navy, and Air Force agencies, in addition to carrying on research projects operated by their own personnel, have contracted with outside groups, particularly universities, to conduct research in their behalf. It is difficult to estimate the amount of money available from these sources but it is clear that it is large.

2. The Ford Foundation and the Fund for the Advancement of Education. While a considerable number of foundations have expressed an interest in instructional television, the Ford Foundation and its offspring, the Fund for The Advancement of Education, have provided most of the foundation money available, particularly through the so-called "National Program in the Use of Television in the Public Schools." In their joint report entitled "Teaching by Television," released in May of 1959, the Foundation and the Fund indicate that they have supported experiments in 25 colleges and universities and 100 school systems. During the 1958-59 school year these experiments involved more than 100,000 students and their teachers. Several millions of dollars have been spent in this effort.

3. Title VII of the National Defense Education Act of 1958. Under the terms of this Title, Congress authorized the expenditure of $18,000,000 for research and experimentation on new media including television, and for the dissemination of research findings and other information. At the end of 1959, the U.S. Office of Education, which administers this Title, had made 69 research grants and entered into 14 dissemination contracts, obligating $5,000,000 and $305,000 respectively to these two programs. The overall program is scheduled to go out of business on June 30, 1962, by which time it is expected that over 200 research grants will have been made. The Title VII program has undoubtedly been the main source of income for university research in the instructional television area. Much of this research has been carried out in the public schools or upon school age youth.

II. How Dependable Is the Research?

Let me move now to a methodological assessment of the available research. I have already hinted that only a very few of the extant studies can meet what might be termed the rigorous, scientific criteria for research. Broadly speaking, such criteria are of two sorts: "Criteria of Internal Validity" and "Criteria of External Validity." In the former case we are concerned with the internal arrangements of the study, e.g., are there adequate provisions for controls, is the instrumentation reliable, are the data collected in ways that satisfy the assumptions of whatever statistical techniques are to be applied to them, and the like. In the case of external validity we are concerned with the generalizability of the experimental findings. To put it another way, we are interested in the question, "To whom do the data apply?"

It is unfortunately true that in most cases of research in instructional television, these requirements of rigorous research have not been adequately met. Experimentsare done with convenient subjects, under poorly controlled conditions, with available rather than specially developed instruments. It is clear that from the point of view of external validity, the findings of such studies have little generality, and from the point of view of internal validity many of them may be misleading.

I want to be very careful, however, not to imply that such studies are worthless. I simply mean to indicate that one must keep his wits about him in interpreting such research. From a developmental point of view it is important that we take even these faltering (and sometimes backward) steps. It is still true that a baby must crawl before he can walk. If you were to insist on judging the baby by the same criteria that you apply to the adult, most babies would find learning to walk a very disagreeable experience indeed.

III. What Kinds of Questions Have Been Asked by Researchers?

Let me turn next to a discussion of the kinds of questions that have been asked by researchers. Realizing that research in the instructional television area is still in its infantile stage, we would not expect very sophisticated questions to have been asked. This seems to be the case. The first question that occurred to everyone is, "Can teaching take place on television?" It is curious, I think, that anyone should have taken this question very seriously. There was, after all, no reason to suppose that one could not communicate facts or concepts as well by this medium as through books, films, radio, or any of the other more common media. As an artist friend of mine pointed out to me, this question is roughly the equivalent of asking whether a painter can communicate with paints and canvas. Yet this same question, when posed in the area of instructional television, caused a surprising flurry of research activity.

This initial question was soon rephrased to become, "Can television teach as well as 'conventional' methods?" This is an interesting question because it assumes that there is a method or methods which can be labeled "conventional." As an experienced researcher in this field can attest, however, defining the "conventional" method and getting teachers of controlled groups to stick to it is, if anything, even more difficult then to make operational the new television approach.

But there is a second, more subtle, problem lurking in this apparently straight forward question - the question assumes that "television teaching" is different from conventional teaching, when, in fact, as I have already tried to make clear by distinguishing televised instruction from instructional television, the so-called television teaching is usually simply the same old conventional teaching with an additional medium of communication interposed between learner and teacher. Thus, from a logical point of view, the question, "Can television teach as well as 'conventional' methods?" makes no sense if by the term "television" you imply televised instruction. Unfortunately this nice distinction has been overlooked with great regularity - a sin of which I myself have been guilty in my own research.

These first two questions, i.e., "Can television teach?" and "Can television teach as well as 'conventional' methods?" may be summarized by labeling them "Questions about Learning;" and incidentally, it is crucial to know that what is usually meant by learning in this context is the amassing of factual information, evidenced by the ability to recall or recognize the learned facts in an objective examination, usually of the multiple choice variety. There have been other classes of questions, which have not, however, been as thoroughly researched as the learning questions. These include:

1. What are student reactions to and attitudes toward television as a teaching device?
2. What are the best viewing conditions for learning?
3. What kind of television installation is appropriate to the school situation?
4. What costs are involved in television instruction?

IV. What Data have Researchers Isolated in Response to these Questions?

I should like now to discuss some of the actual research findings that apply to the questions I have raised in the preceding discussion. Let me consider the five areas I have outlined - learning, attitude, viewing conditions, installations, and costs - in order.

1. Learning. There seems to be no possible doubt from the evidence that learning can be produced via television and that television is as effective a medium as any "conventional" method. The situation is nicely summarized by the Encyclopedia of Educational Research:

> Teaching by television is effective at all levels of instruction, from elementary school to military training. In very few cases has TV instruction been found to be inferior to conventional instruction, and in many cases TV was significantly more effective.

Samuel Becker of the State University of Iowa, in summarizing TV research before the convention of the American Association of School Administrators in Atlantic City in February of this year, concluded that:

> The bulk of the evidence from instructional research has to do with... retention of information. It seems to me that the evidence here is quite clear. Study after study can be cited to show that students can retain information as well from many types of television presentations as they can from most other types of presentations, including face-to-face lecture or discussions. The instances in which a contrary finding occurred can easily be accounted for in terms of sampling error and differences between experimental groups other than simply the presence or absence of television.

Wanda B. Mitchell, Director of the Television Project of the Evanston, Illinois, High School, points out in the 1958 report prepared by the Subcommittee on Television of the Commission on Research and Service of the North Central Association that:

> Considerable research on how well students learn on television as compared to regular classrooms indicates that students can, and do, learn well when instructed by television. Of the 50-odd studies reported on this question, there has been only one case in which a definite superiority was found for face-to-face instruction.

It would be burdensome, I think, to document these assertions here in detail. I would, however, like to present summary evidence from two sources in their behalf. First I should like to make reference to the Ford report on the first year of operation of the National Program in the Use of Television in the Public Schools. The slide shows the information.

SLIDE ONE HERE

The first column lists the eleven locations in which the studies were carried on. It should be noted that these studies reflect all grade levels from one to twelve and the entire curriculum as usually taught at these levels. The two columns labeled "H" give the number of students in television and control classes which participated in each location - thus in Atlanta, 2,367 students participated as television students and 2,512 students participated as control students. The two remaining columns indicate the number of comparison studies that turned out in favor of television and control classes. In the case of Atlanta we may need the information as follows: Of fifteen comparisons, 10 were in favor of TV classes and 5 in favor of conventional classes. Of the 10 comparisons in favor of TV classes, 6 (the number in parantheses) were statistically significant, while of the 5 in favor of control classes, 2 were statistically significant. The most significant data are contained in the row of totals at the bottom of the table. We see that a total of 26,992 students participated, 14,326 TV, 12,666 control.. 110 total comparisons were made, of which 68 were in favor of televised classes and 42 in favor of control classes. Of these 110 comparisons only 38 were significant however, 29 in favor of televised classes and 9 in favor of control classes. The relatively small proportion of significant to total studies is about what is normally found, a fact which has lead TV researchers to band themselves together into what we call "The Cult of the NSD" or No Significant Difference.

While these results are impressive, they are also for many persons suspect in view of the supporting agency. Let me therefore cite from a second summary prepared by William H. Allen for the California State Department of Education. I have had reproduced on slides four figures contained in the Allen report which have substantially the same impact as the Ford data.

SLIDE TWO HERE...

The first slide summarizes elementary school data. Of 45 studies reviewed by Allen at this level, 31 showed no significant difference, 11 showed TV superior, and 3 showed conventional instruction superior.

SLIDE THREE HERE...

Of 24 junior high school level studies shown in the next slide, 19 showed no significant difference, 3 were in favor of TV, and 2 in favor of conventional instruction.

SLIDE FOUR HERE...

Of 67 senior high school level studies shown in the third slide, 48 showed no significant difference, 14 showed TV superior, and 5 showed conventional instruction superior.

SLIDE FIVE HERE...

Finally, of 23 studies shown in the last slide at the junior college level, 20 showed no significant difference, 1 was in favor of TV, and two were in favor of conventional instruction.

Allen also points out that when these same studies are viewed from the point of view of subject matter rather than grade level, the same general picture - no significant differences - emerges.

2. Student attitudes and reactions. As compared to the number of studies on learning, the number concerned with student attitudes toward instructional television is small. The findings are, moreover, equivocal. Several studies in military settings showed students generally favorable toward television instruction even though the achievement of the television classes was equal to that of control classes. At the Pennsylvania State University a free-choice method was utilized, under the terms of which 312 chemistry students, after five weeks experience hearing lectures in a large auditorium and an additional five weeks of experience in small television classes were given the choice of which kind of class they would attend for the remainder of the term. Only one-third chose the television classes; however, this third included 50 per cent of those who had had seats in the back half of the auditorium and 20 per cent of those who had had seats in the front half. Upon later questioning those who had chosen TV instruction were more certain that they had made the right choice than did the regular group. At Miami (Ohio) University students showed an initial good reaction to TV but later became less enamored of it, a phenomenon which the researchers there have come to refer to as "progressive disenchantment." From these studies it is clear that more definitive research is needed in this area of student reaction; no firm conclusions can now be drawn.

3. What are the best viewing conditions for learning?

4. What kind of television installation is appropriate to the school situation?

I should like to discuss these questions together since they both pose engineering or architectural problems. I do not feel especially competent in these areas nor have I made any special attempt to follow the literature relative to them. It is apparent, however, that studies have been done which investigated such things as optimal size of screen, lighting, viewing angle, seating arrangement, audience size, and the like; and have determined the feasibility of various kinds of open and closed circuit installations for various purposes. Possibly the best source for this information from the school man's point of view is the brochure, Design for ETV, Planning for schools with Television, prepared by David Chapman, Incorporated, and available free from the Educational Facilities Laboratory in New York. I might also mention in passing that the School Plant Division of the Bureau of Educational Research and Service of the Ohio State University is currently developing data in this field.

5. What costs are involved in television instruction? It is clear that cost factors are among the more important considerations in comparing televised instruction to other forms. It is difficult to obtain meaningful figures from experimental programs since such programs obviously cannot be as economical as well developed, standardized instructional programs. The number of personnel and the quantity of hardware necessary to put even a fifteen minute lecture involving a single teacher on the air are appallingly large and can be justified only when the audience is sufficiently large.

Some available data are illuminating however. The Dade County (Florida) study involving three elementary, three junior high, and three senior high schools resulted in a saving of 27 teaching positions and 29 classrooms, which more than made up for the $120,000 operating expense for the telecast. At both Pennsylvania and Miami Universities, cost analyses have shown that whenever course enrollment exceeds 200 to 220 students televised instruction becomes cheaper than regular classroom instruction. Cost estimates made for various courses to be broadcast by the Midwest Program on Airborne Television Instruction ranged from $50,000 to $30,000 per course, depending upon the nature of the course and who makes the estimate. Obviously televised instruction costs money but under certain circumstances can more than pay for itself.

V. What Questions have not been Asked by Researchers?

The preceding brief statement will give you some idea of the current status of research. Obviously there are more unanswered than answered questions. I believe that we have neglected a number of vital questions, and it is my hope that we can soon turn our serious attention to them. These questions include:

1. What utility does television have for learning of other than a factual nature? It seems to me that learning can be characterized as existing at three levels: (a) the action level, in which the student on his own initiative teaches himself through suitable material, (b) the reaction level, in which the student learns by reacting to the instruction of a teacher, and (c) the interaction level, in which the student learns by interaction with the teacher and other students. So far TV research has tapped only the reaction level, and then only with respect to facts. We must ask questions about the other levels, and with respect to such other objects as problem solving, evaluation, social, and cultural skills.

2. What utility does television have in the area of concomitant learnings, e.g., for teaching attitudes and values, for developing a sense of openness in students, for improving their sense of security and belongingness, and the like?

3. How can TV best be utilized in situations where it is to be (a) a total teaching device, (b) an enrichment device, and (c) a supplementary teaching device?

4. What are the desirable and undesirable aspects of the uniform curriculum which mass television teaching is likely to produce?

5. What is the teacher's role in television education? How can the television teacher and the studio teacher best plan together? What does the studio teacher contribute to the partnership? Can he do things which the classroom teacher could not himself do? What is the classroom teacher's role? Can televised instruction release him from some of his present duties; if so, from what and for what? How can teachers best be trained for these new roles? How can the partnership of studio and classroom teacher be formed without lowering the latter's self-esteem and making of him a second class citizen?

6. What is the role of the school as an institution in an age of televised instruction? Does the local school become simply a "viditorium" in which centrally developed programs and courses are developed and received?

7. What is the role of the student? From an acadmic point of view, what looking and listening skills ought he to develop to become an effective television learner? Will he be enabled to take more direct charge of his own education? What perceptual processes are best adapted to the task of television learning? From the psychological point of view, how does the student identify with the school and with the teacher? Which teacher? Is his graduation cheer to give a "Yea, Yea, Yea, for RCA"

8. What is the role of the school administrator? What becomes of his function as supervisor of instruction? Does he devolve into a simple record keeper and discipline maintaining functionary?

9. What is the role of the television specialist? How do the details of his handling of programs influence learning? To what extent will he make curricular decisions? How can such specialists be trained to stand in relation to learning by television in the same sense as the reading specialist stands in relation to learning by reading?

VI. Next Steps

Where then do we go from here? I have tried to give you a general picture of the research enterprise to date. Thus far the research has been done by a surprisingly small number of agencies, and has beensupported by an even smaller number of patrons, some of whom have, at least by reputation, an ax to grind. All too frequently relatively unimportant questions have been studies by methodologically inept investigators. The results are ambiguous, to say the least.

Yet we have made strides. Our crawl, I am confident, will soon become a vigorous walk. Our questions will expand from the relatively obvious consideration of mundane issues to more pervasive psychological, sociological, and developmental questions. Our experience to date calls not for less but for more research. Television is undoubtedly here to stay as an instructional tool. Applications will be made. Our task will be to see to it that the applications are not made willy-nilly, but in light of sound theoretical formulations well substantiated by reliable research data.

Egon G. Guba
Professor and Coordinator of Research
Bureau of Educational Research and
Service
The Ohio State University